

47th ANNUAL REPORT

FOR THE FISCAL YEAR JULY 1, 1976 TO JUNE 30, 1977
FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES
DOYLE CONNER, COMMISSIONER OF AGRICULTURE

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Letter of Transmittal

The Honorable Reubin O'D. Askew
Governor of Florida
Tallahassee, Florida 32304

Dear Governor:

To fulfill statutory requirements, it is my pleasure to submit to you and members of the state legislature, the 47th annual report of the Florida Department of Agriculture and Consumer Services.

This report lists and points out the services and programs provided by the department for the fiscal year from July 1, 1976 to June 30, 1977. The information contained in this report will reflect the increased importance of the changes in agriculture and consumer needs in our state.

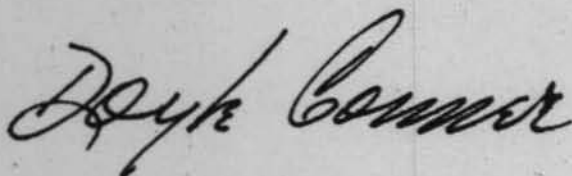
Not only has Florida agriculture continued to grow, but the public has become increasingly aware of activities in the area of consumer services.

There have been significant advances in every division within our department. But to conserve paper and other costs, this report will highlight only a few of the major priorities during the year.

I wish to express my appreciation to all department employees for their dedication and spirit. By like token we are grateful for the assistance and cooperation which we received from every segment of related industries and from all levels of state government.

We offer this report for your consideration and information.

Cordially yours,

A handwritten signature in cursive script, reading "Doyle Conner". The signature is written in dark ink and is positioned above the printed name of the signatory.

Doyle Conner
Commissioner



Doyle E. Conner became Florida's seventh Commissioner of Agriculture in January, 1961. Prior to his election to this office Conner served 10 years in the state legislature and was the youngest member ever to be elected Speaker of the House. Conner was born in Starke, Fla. on December 17, 1928 and was graduated from the University of Florida with a bachelor's degree in agriculture. He is a past president of the University of Florida Alumni Association, National Association of State Departments of Agriculture and Southern United States Trade Association. In early 1976 Conner was named one of 76 "Florida Patriots" by the Florida Bicentennial Commission.

Harold H. Hoffman became Assistant Commissioner of Agriculture in April, 1965. He joined the department in 1940 as a chemist in the Division of Chemistry's feed laboratory, was named laboratory chief in 1948 and associate state chemist in 1959.

Born March 29, 1914, in Jefferson County, Nebr., Mr. Hoffman attended elementary and secondary schools in Winter Haven, Fla. He was graduated from the University of Florida in 1938 with a bachelor's degree in chemistry.



DIVISION OF ADMINISTRATION



John S. Shipp was appointed director of the Division of Administration on November 1, 1975. Prior to this he had been employed by the state treasurer's office and the Department of Education as well as having served for six years in the Florida House during the late 1950's. Shipp holds a bachelor's degree from the University of Florida as well as a master's degree from Florida State University. He was born in Williamson, Ga. on March 17, 1918 and served both in the army and navy during World War II. In addition to his service with the state, Shipp also has experience as a school teacher/administrator and as a publishing company executive.

Finance and Accounting

The Finance and Accounting Unit is responsible for all departmental revenues and expenditures which totaled \$57,955,960 and \$55,170,558 respectively in 1976-77. Other functions include property management, federal grant-in-aid activity and planning and budgeting. The unit will continue its functions in these areas and will become deeply involved in conversion to the new statewide accounting system.

Information Research Services

This bureau is responsible for providing the general public with information regarding those areas that come under department jurisdiction. In fulfilling that responsibility, the bureau processed 21,565 information inquiries during the fiscal year. In addition 160,553 pieces of literature were distributed.

Utilizing the cooperation of the various media, the bureau prepared 261 news stories for distribution. Broadcast items produced numbered 383 and kept the statewide agricultural radio network supplied with accurate and timely agricultural information.

Five special educational manuscripts and 93 speeches were also prepared by bureau information specialists. A staff photographer completed 260 photography assignments.

The bureau is also responsible for editing the annual report and an employee newsletter.

Revisions were either begun or completed on several publications. "Beef Cattle in Florida" was made available to the public in the spring. "Vegetable Gardening in Florida" was so popular that a reprint is in progress as well as the publication of two chapters in single excerpt form. "Flowers, Shrubs and Trees for Florida Homes" is presently under revision and delivery is soon expected. "Summarizing Florida Agriculture" was updated and pocket metric converters were made available to those requesting them.

Personnel

Personnel is responsible for the maintenance of the official records of this agency's employees, administration of the state uniform pay plan and for the administration and interpretation of the personnel rules and regulations of the Career Service System.

1976-77 saw a substantial increase in legislation adopted affecting recruitment and equal employment opportunity. The governor and cabinet, sitting as the Administration Commission, adopted a new administrative rule on equal employment opportunity which had a significant impact on department hiring procedures. The bureau established new guidelines for recruitment procedures and for the advertisement of vacancies. In addition, the 1977 Legislature revised the Florida Statutes concerning veterans preference in employment to create greater priority in the employment of veterans of the Vietnam era. The recruitment section has been working closely with all divisions to ease the implementation and administration of these new requirements.

The cyclical classification study being conducted by the Division of Personnel and our department is nearing completion. This study encompassed a total review of all positions either through a desk audit or a review of the position description to insure the proper classification of each position. In addition, a review is being made of all class specifications utilized by the department and many of these are being changed to reflect up-to-date duties and responsibilities or changes in the minimum training and experience requirements. An extensive survey and evaluation of all pay grade assignments is also being conducted. When finalized, we feel this study will be of mutual benefit not only to the Division of Personnel, but to all divisions throughout our department.

The personnel office has been delegated classification authority through an administrative rule and subsequent legislation. This authority should allow classification matters to be handled in a more expeditious manner.

58 employees received a total of 1,160 hours in first aid and cardio-pulmonary resuscitation training. Tallahassee offices and field facilities now have employees certified to provide emergency care.

The 1977 Legislature made provisions for a salary increase to state employees. The date of implementation was not established during this fiscal year but was targeted for an effective date of September 1, 1977. The proposed pay adjustment is to include special geographic salary rates for certain classes of employees in specified county locations. These special rates are determined by prevailing wages for comparable work in the private sector.

To date, none of our employees are members of a collective bargaining unit. As information becomes available to us in this area, our supervisory personnel are provided relevant material in order for them to stay current with applicable laws and rules.

General Services

The Bureau of General Services is responsible for departmental purchasing, maintenance, grounds, duplicating and printing, mail distribution, supplies, communication, coordination of all records management with Division of Archives and Records Management, and preventive maintenance, Department of General Services. Work involves the development of procedures necessary to carry out these responsibilities.

Purchasing is responsible for writing, checking or revising specifications, preparing and mailing bid invitations to prospective vendors, checking requisitions prepared by other divisions and issuing purchase orders.

Maintenance section is responsible for maintaining heating and air conditioning, custodial cleaning and security for the Mayo Building and Laboratory Complex.

Grounds maintenance section is responsible for the maintenance, beautification and landscaping of 112 acres.

Supply section is responsible for requisitioning, storing and issuing supplies to all 11 divisions in the department.

Mail distribution section is responsible for the distribution of all department incoming, outgoing and interoffice mail in the Tallahassee

offices. They remove all revenue and type a daily cash report.

Communication consists of two consoles and two operators who are responsible for handling all incoming and outgoing WATS calls for the department.

Printing section is responsible for duplicating and printing a wide variety of departmental forms, informational material, reports and similar material on a continuing basis.

	Amount	% of Total
Revenue (By Sources)		
Charges for Current Services	\$ 18,237,046	31.5
Licenses and Permits	187,536	.3
Use of Money and Property	5,567,828	9.6
Other Agencies	4,600,171	7.9
General Revenue	29,363,379	50.7
Total Revenue	\$ 57,955,960	100.0
Expenditures		
Salaries and Benefits	\$ 36,235,954	65.7
Other Personal Services	1,468,422	2.7
Expenses	8,845,783	16.0
Operating Capital Outlay	1,295,919	2.4
Payment to Agricultural Marketing		
Service U.S.D.A.	59,421	.1
Grants and Aids	555,686	1.0
Forestry Research	25,000	.1
Automated Testing Equipment	133,650	.2
Data Processing Services	632,884	1.1
Soil and Water	365,965	.7
Indemnities	702,293	1.3
Citrus Blackfly	1,891,107	3.4
Fire Ant Control	275,801	.5
Certifications Forward	741,773	1.3
Fixed Capital Outlay	1,565,168	2.8
Debt Service	375,732	.7
Total Expenditures	\$ 55,170,558	100.0

DIVISION OF ANIMAL INDUSTRY

Dr. Clarence L. Campbell received his veterinary medicine degree from Ohio State University in 1945. Later that year he joined the Florida Livestock Sanitary Board as a field veterinarian. He became assistant state veterinarian in 1948, acting state veterinarian in 1952 and state veterinarian in 1953. Dr. Campbell was born September 24, 1921 in Indianapolis, Ind., attending Sebring, Fla., public schools and Florida Southern College.



The Division of Animal Industry spent an active year in the conduct of a variety of programs designed to improve the health and welfare of the livestock industry and to provide consumer protection to the citizenry of the state. These programs involved the control of dangerous transmissible diseases of livestock, wholesomeness inspection of meat and poultry products, and livestock theft prevention activities.

The Animal Industry Technical Council held four meetings at various points in the state to consider animal industry programs. The council is advisory to the commissioner of agriculture and the director of Animal Industry, and consists of 10 members representing the segments of the livestock industry regulated by the division. The general public as well as livestock industry members are invited to participate at all meetings of the council.

Administration

Direction and supervision of all programs was provided by the office of the director. This unit also furnishes administrative, clerical and fiscal support to the operating units of the division.

Maintenance

Maintenance service was provided for all laboratory buildings of the division on a routine basis during the year. Additionally, all laboratory equipment, automotive equipment, spray rigs, pumps and air conditioning units were regularly serviced and maintained in operating condition.

The crew of this unit gives valuable assistance to the operating units in designing and fabricating specialty items of equipment needed in program operations. Centrifuges, branding irons, brucellosis card test rockers, and firepots were supplied to field personnel at considerably less than the cost of these items from commercial suppliers.

Marks and Brands

The loss of the chief of this unit and two field investigators was keenly felt in the conduct of investigations relating to theft of livestock. These positions were eliminated by the 1976 Legislature.

This unit received and investigated 93 complaints of theft of animals or livestock-related equipment. 2,883 head of livestock valued at \$550,224 were reported stolen. \$31,455 worth of equipment, including three farm tractors, one trailer, 19 saddles and bridles, were also reported stolen. Field investigators assisted in the recovery of 58 head of livestock valued at \$120,365, and equipment valued at \$24,965. Warrants were secured for 21 individuals as a result of theft investigations.

There were 10,009 active livestock brands on file as of June 30, 1977. 404 new brand certificates were issued and 685 certificates cancelled during the year. 975 livestock hauler permits were issued.

Contagious and Infectious Diseases

This bureau's field personnel consist of 59 men who are involved in the inspection of animals on farms and ranches, at livestock

markets, and at shows and fairs for signs of diseases or the presence of ectoparasites. These personnel include four district supervisors, 28 area inspectors, 19 market inspectors, and eight personnel manning spray trucks that weekly, or more often when necessary, disinfect the 28 livestock markets throughout the state.

Even though these inspectors are classified as to type there is considerable interaction between them relative to their duties. Many of the area inspectors whose primary responsibilities lie in the realm of inspections on farms and ranches, especially the twice monthly inspection of the 500 premises feeding edible waste to swine, are also involved with work at the livestock markets in the state which handle all classes of farm stock, but primarily swine and cattle. In conjunction with the inspection of swine on farms and ranches and at livestock markets, inspectors also examined the herd of origin, permanently identified and permitted some 127,000 feeder pigs to ten specially approved livestock markets for special sales held monthly at these markets during this fiscal year.

Parasitic problems are a constant threat in our subtropical state, especially with ticks that act as vectors for many serious animal diseases and for the screwworm. A constant surveillance is maintained by our inspectors for these two pests in all their activity.

Work at livestock markets not only involve the search for ectoparasites and illness in animals presented, but a great majority of time is involved in assisting in the brucellosis eradication program by properly classifying cattle presented at markets and directing them to the appropriate destination, whether it be back to the farm and ranch, or direct to approved slaughtering establishments or feedlots. Those cattle of mature breeding age are identified by backtag numbers as to original owner, in the event they are sent to slaughtering establishments, where a sample of blood is collected for brucellosis testing and traced back to farms of origin.

The equine infectious anemia program which involves negative testing of all horses destined to assembly points or sales, is also administered within this bureau. The inspectors' duties are primarily concerned with the checking of test charts at these assembly points and the proper disposition of those horses that do react positively to the test for equine infectious anemia.

During the year, intensified surveillance of swine was continued due to outbreaks of hog cholera in New England states last year. No evidence of the disease was found in Florida swine or those shipped in from other states. No additional breaks have occurred anywhere in the United States, and the entire country will soon be eligible for declaration as hog cholera free.

Pseudorabies in swine in the major hog producing states increased significantly during the year and inflicted considerable economic losses due to the high mortality rate in baby pigs. Regulations were adopted to require negative pseudorabies testing on swine imported into Florida to prevent introduction of the disease into the state. The diagnostic laboratory located in Suwannee County was supplied with the equipment necessary for conducting pseudorabies testing to determine if the disease is present in the state.

In April notice was received that cattle fever ticks were found on a group of two-toed sloths shipped from a Miami exotic pet farm to a zoo in Buffalo, New York. These sloths originated in South America and had been at the pet farm in Miami for a short period of time before being shipped to the New York zoo. Personnel of this bureau and the USDA Animal and Plant Health Inspection Service conducted exten-

sive inspections of all exotic animals at the Miami pet farm and traced all animals that had been shipped from the pet farm after arrival of the sloths from South America. No cattle fever ticks were found.

Activities of the Equine Disease Control Unit were primarily concerned with the implementation of laws and rules pertaining to the horse disease, equine piroplasmiasis, and local assistance on the equine infectious anemia program. Piroplasmiasis control activities during this period have included the inspection of 65,196 equines, of which 240 were found to be tick infested. 220 horses were hosts of *Dermacentor nitens* or the tropical horse tick, which is the specific vector of equine piroplasmiasis. 2 positive cases of equine piroplasmiasis were reported, one in Hardee County and one in Polk County. Both were positive for *B. caballi* only, and both were brought into Florida from Puerto Rico. The history of these animals indicates that they were infected prior to being brought into the state.

Personnel of this bureau attended 95 horse shows for the purpose of enforcing the law relating to horse soring and drug abuse. Blood and urine samples were collected from horses at random, and tested at the Osceola County Diagnostic Laboratory for evidence of drugging.

Poultry Services

The Bureau of Poultry Services is responsible for the control and eradication of infectious and contagious diseases of poultry. The bureau also administers the national poultry improvement plan in Florida.

Specific disease control programs are conducted in regard to *S. pullorum*, *M. synoviae*, fowl typhoid, and *M. gallisepticum*. In addition, the bureau directs epidemiological investigations and enforces control measures, including quarantine and eradication, when a poultry disease constitutes a threat to the poultry population of the state, such as infectious Laryngotracheitis or exotic Newcastle disease.

During the past year 148 hatchery inspections were performed. Periodic inspections and tests must be made to assure that standards of sanitation and disease criteria are met. Hatchery air and swab sampling for presence of bacteria is routinely employed during hatchery inspections. 1.1 million breeder chickens were tested for *S. pullorum* and Fowl typhoid diseases, and a million were tested for *M. gallisepticum* disease.

The bureau continued to enforce the law requiring all hatcheries and poultry farms to provide for sanitary disposal of dead birds and hatchery residue. 1,155 poultry farms and hatcheries have been issued certificates of compliance (or approval) for their dead bird disposal facilities. During the year, 878 disposal facility inspections were performed.

The bureau issued permits for importation of poultry into the state. During the 12-month period ending June 30, 1977, 113 permits covering 1,339,149 birds were issued for importation into the state. During the same period, health certificates for export purposes were issued covering 6,800 thousand dozen hatching eggs, 11 million chicks, 99 thousand ducks, 121 thousand poults, and 90 thousand miscellaneous birds.

All poultry, including exhibition, exotic, and game birds going to public exhibition must come from Pullorum-typhoid clean sources, or have a negative test prior to admission. This fiscal year birds were inspected and tested at 44 fairs in the state.

Regulations of the USDA Animal and Plant Health Inspection Service allows commercial lots of pet, zoological and exotic birds to be brought into the United States and held in USDA approved quarantine facilities furnished by the importer for a minimum of 30 days. While in quarantine, the birds are under USDA supervision for examinations and tests to make sure they are free from exotic Newcastle or other infectious diseases. There are ten of these facilities in the Miami area. Personnel from this bureau regularly review their activities, including on-site inspections.

Brucellosis and Tuberculosis

Three counties, Dade, Pasco and Sumter, lost certified brucellosis free status due to the high rate of herd infection within each county. One county, Citrus, was certified as brucellosis free during the year.

STATISTICAL INFORMATION

Division of Animal Industry

Fiscal 1976-77

Bureau of Brucellosis and Tuberculosis

Cattle Tested for Brucellosis	1,017,542
Percent of Cattle Infected	2.36
Swine Tested for Brucellosis	1,218
Percent of Swine Infected	1.56
Cattle Backtagged at Markets	158,519
Cattle Tested at Slaughtering Establishments	215,446
Percent of Cattle Infected	1.69
Calves Vaccinated	102,820
Cattle Tested for Tuberculosis	49,727
Percent of Cattle Infected	3.28

Bureau of Contagious and Infectious Diseases

Cattle Inspected at Livestock Markets	815,173
Swine Inspected at Livestock Markets	314,136
Livestock Inspected on Farms	1,795,561
Garbage Feeders	525
Swine Fed Garbage	35,572

Bureau of Poultry Services

Disposal Facility Inspections	926
Hatchery Inspections	148
Birds Tested for Pullorum Disease	1,104,784
Birds Tested for <i>M. Gallisepticum</i>	1,060,084
Foreign Exports, Baby Chicks	10,972,347
Foreign Exports, Hatching Eggs, doz.	6,823,023

Bureau of Meat Inspection

Animals Slaughtered	251,409
Poultry Slaughtered	6,496,905
Red Meat Products Produced Under Inspection, lbs.	651,492,577
Red Meat Products Condemned, lbs.	2,726,911
Poultry Products Produced Under Inspection, lbs.	183,334,383
Poultry Products Condemned on Antemortem, lbs.	121,543
Poultry Products Condemned on Postmortem, lbs.	864,387
Products Certified, lbs.	3,090,216
Products Rejected for Certification, lbs.	39,073

Bureau of Diagnostic Laboratories

Cases Submitted	59,645
Tests Performed	822,798

Equine Disease Control Program

Animals Sprayed and Inspected	65,196
Horses Tested for Equine Infectious Anemia	60,185
Percent of Horses Infected	1.44
Horse Shows Covered	95
Samples Collected	792

Marks and Brands Unit

Theft Complaints Investigated	93
Theft Warrants Secured	21
Brand Certificates Issued	433
Livestock Hauler's Permits Issued	975

The brucellosis adult vaccination which has been promoted by the Department of Agriculture and Consumer Services for the past four years was approved by the brucellosis committee of the U.S. Animal Health Association and regulations were adopted by USDA APHIS in March, 1977. By the end of the year 40 dairy herds and nine beef herds, all with high infection rates, had been approved for adult vaccination.

An extensive tuberculosis testing program was conducted by the bureau in cooperation with federal personnel during the year. A task force was established in Lafayette County where a heavily infected dairy herd had exposed some 46 adjacent and contact herds. Tuberculosis lesions were found in one beef herd in addition to the one dairy herd in this county. Additional tuberculosis infection was found in dairy herds in Hillsborough and Polk counties.

Diagnostic Laboratories

The Bureau of Diagnostic Laboratories processed a total of 59,645 accessions during the fiscal year. These accessions covered all species of animals. A total workload of 822,798 tests of all kinds were conducted during the year. These varied from autopsies of all kinds, including reptiles, to a variety of serologic, bacteriologic, virologic, histopathologic, chemical, and parasitologic tests. The animals and materials tested varied from fresh to preserved to unsatisfactory putrified specimens.

There were 2,050 bovine cases processed during the year and equine cases totaled 40,060, including equine infectious anemia testing. Avian cases totaled 3,972, and porcine cases totaled 458. There were 13,103 cases for all other species, including canine, feline, and exotic animals.

The emphasis at the main laboratory (Kissimmee) is on bovine and equine diseases, along with histopathologic examinations, toxicologic procedures, virological studies, bacteriological interpretations and parasitological determinations. The branch laboratory at Live Oak is an all-species oriented facility and has this year started testing for pseudorabies. The Dade City laboratory is primarily concerned with poultry, but also does EIA testing. The Cottondale laboratory is all-species oriented and has shown an increase in small animal work. The Miami Springs laboratory is oriented to equine laboratory work other than autopsies, along with diversified small animal and poultry examinations.

All of our laboratories are now qualified to conduct AGID tests for equine infectious anemia. This also qualified the laboratories to conduct the immuno-diffusion test for bovine leukemia, but such testing has not been done to date. The control program for equine infectious anemia results in a large number of tests for this disease. During the year there were 60,229 tests for EIA, of which 60,102 were "first tests", to the best of our knowledge, and not previous reactors. The percentage reaction statewide was 1.3 percent for these animals. This is a drop of 0.6 percent from the previous fiscal year. The overall positive reaction rate, which included animals previously tested and found to be positive, was 1.5 percent. This is a reduction in the reaction rate of 0.7 percent from last year.

Since EIA testing was started in 1970, a total of 277,656 tests have been conducted with 11,764 being positives. This is a positive reaction rate of 4.2 percent overall, even including the first years when the rate was 12.0 percent.

The most common disease conditions diagnosed by the laboratories are parasitisms, pneumonias, respiratory and digestive viral conditions, and clostridium infections.

Meat Inspection

The Bureau of Meat Inspection provides assurance to the consumer of clean, wholesome, unadulterated meat and poultry food products. In addition, the service of this program assists in livestock disease control and pesticide residue programs, and provides certification of meat products to state institutions and public school systems which request this service.

As of June 30, 1977, 313 establishments received full state inspection to permit them to sell meat and meat products to the public. 87 custom exempt establishments, where slaughter and processing activities are carried on for the owner's own animals, are regularly visited by bureau personnel to see that the wholesomeness of the product is maintained.

During the period of this report four arrests were made with prosecutions because of sales of uninspected meat to the public. Other actions were taken by the state attorneys' offices in the areas that resulted in corrections for apparent violations of the law, but did not require arrest and prosecution. At the end of the fiscal year, two additional cases are pending.

The state meat inspection program is operating in the same manner as the federal meat inspection program without exception to the rules and regulations. The program is financed on a 50-50 matching basis from state and federal funds.

Animal Industry Technical Council

R. D. BENNETT	Beef Industry
GERALD CAYSON	Beef Industry
JOE A. HILLIARD	Beef Industry
O. L. PARTIN, Chairman	Beef Industry
ROBERT W. HALL	Dairy Industry
JOE M. O'FARRELL	Horse Industry
PETE CLEMONS, Vice Chairman	Independent Agricultural Markets
ERWIN BRYAN	Meat Packing Establishments
HENRY W. LAND	Poultry Industry
ELLIS PUTNAL	Swine Industry

C. L. CAMPBELL, D.V.M.
State Veterinarian and Director



DIVISION OF CHEMISTRY

Dr. Charles H. Van Middelburg, director of the Division of Chemistry since September 1, 1973, was born August 6, 1919 in Bruges, Belgium. He received a bachelor's degree in 1944 and a Ph.D. in biochemistry in 1952 from Cornell University. From 1952 to 1973, he was on the research faculty staff with the Institute of Food and Agricultural Sciences, University of Florida, and was in charge of the Pesticide Research Laboratory in Gainesville.

The Division of Chemistry has the primary responsibility for conducting laboratory analyses on samples submitted by state agencies and for providing, when necessary, technical evaluations to enforce the following six chapters of the Florida Statutes: pesticide; food, drug, and cosmetic; commercial fertilizer; commercial feed; seed certification; and seed. Examples of the type of technical assistance provided by personnel of this division to assure compliance with appropriate state laws are as follows: (1) approve applications for registration of fertilizer, (2) review food labels and (3) verify seed labels. The laboratories of this division conduct various chemical, microbiological, and physical analyses in order to test and evaluate a wide variety of products sold in the state for the protection of Florida consumers.

Samples to be analyzed, examined, or tested are usually obtained through inspectors employed by the various divisions in this department or from other state agencies and forwarded to one of our laboratories. If the laboratory analyses indicate the sample is illegal, subsequent enforcement action is the responsibility of the division or state agency through which the sample originated.

The Division of Chemistry was authorized 106 F.T.E. positions during the year, of which seven were assigned to field laboratories located in central and south Florida, plus three inspectors assigned the responsibility of furnishing official samples to the field laboratories. The division is composed of the following bureaus, laboratories and sections: pesticide residue, fertilizer, feed, seed, food, pesticide, commodity testing, methods development, laboratory services, and administration.

Several laboratories obtained some urgently required new instrumentation which significantly increased their analytical versatility and capability. During the year, the division laboratories analyzed over 54 thousand samples of food, feed, seed, fertilizer, pesticide formulations, pesticide residues and other commodities. Approximately 326 thousand separate determinations, tests and observations were conducted on these samples, despite the fact that four authorized positions in the division were deleted by legislative action on July 1, 1976.

Pesticide Residue Laboratory

This bureau is responsible for analyzing food and feed products for residues of pesticides, heavy metals and other toxic compounds that may adulterate the product. During this fiscal year, 6,688 samples composed of 11,929 determinations were analyzed and 1.8 percent of these were found to be violative.

Inspectors assigned to this bureau obtained 55 percent of the total number of samples of fresh vegetables from farms, packinghouses, warehouses, retail outlets and other channels of trade. The remaining 45 percent of the samples analyzed resulted from selective monitoring of animal feeds, beef and poultry meat, milk, eggs, various seafoods and miscellaneous processed food products. Joint surveys with federal laboratories on fish for kepone and mirex residues were conducted following intensive investigations by several federal and state agencies. Fish taken from Florida waters were not found to be contaminated by these pesticides.

New analytical methods were developed for use by bureau laboratories in cooperation with the methods development section of this division. Increased emphasis will be made in the next year to develop more versatile analytical methods and improve interlaboratory quality control in the three laboratories of this bureau.

Pesticide Laboratory

This bureau operates under the Florida pesticide law, which provides protection for the home gardener as well as the commercial user of pesticides. Under this act, every pesticide distributed, sold or offered for sale in Florida must be registered with the state. The primary responsibility of the laboratory is to analyze all pesticide formulation samples submitted to determine whether the percentages of guaranteed active ingredients are within the tolerance allowed in the pesticide act.

The deficiencies determined on formulation samples analyzed during the four quarters of this fiscal year were 6.0 percent, 4.9 percent, 6.5 percent, and 5.7 percent respectively. A total of 14,521 determinations were conducted on 6793 samples analyzed. During the year, 10 samples in the AAPCO Check Sample Program and three samples in industry-sponsored AOAC programs were analyzed and reported. Mobay Chemical analyzed Guthion using infrared, Dow Chemical analyzed 2, 4-D by high pressure liquid chromatography (HPLC), and Amchem Products analyzed bromoxynil by gas chromatography.

During the year considerable progress has been made in the application of HPLC for the analysis of pesticide formulations which previously had not been successfully analyzed by other methods of analysis. This new technique was also used to analyze several recently marketed products. The percentage of samples analyzed by HPLC in this bureau increased from approximately one percent during the second quarter of the fiscal year to approximately 7 percent in the fourth quarter.

Fertilizer Laboratory

This bureau is responsible for the analytical and technical phases of the enforcement of the Florida commercial fertilizer law. Official samples of commercial fertilizers offered for sale in Florida are analyzed for the primary plant nutrients, nitrogen and its components, available phosphoric acid and soluble potash. Secondary plant nutrients such as magnesium, manganese, copper, zinc, iron, boron, chlorine, sulfur, etc., are also analyzed when guaranteed. Samples of dolomite, limestone and gypsum are analyzed to determine if the guarantees are met as to content of calcium and magnesium. Microscopic examinations of fertilizer samples are made to verify the source materials stated on the label and detect discrepancies.

A state chemist fertilizer analysis report is mailed to the manufacturer, dealer and consumer involved with each sample. If the laboratory analysis indicates that any ingredient falls outside the legal tolerance, the sample is reported as deficient and a monetary penalty is

assessed. This penalty is paid to the consumer by the manufacturer. A computerized system for handling laboratory data and preparing analysis reports is being utilized and has greatly simplified the quarterly report preparation and compilation of other data.

The fertilizer laboratory checks labels which accompany samples of commercial fertilizers to determine if all guarantees and claims are compatible with the ingredients present.

This bureau conducted 110,741 separate determinations on the 9,702 samples analyzed during the year. Deficiencies in one or more plant nutrients were reported on 21.5 percent of the samples.

Feed Laboratory

This bureau conducts analyses on all types of animal feed sold in Florida, thereby assuring these feeds are in compliance with the provisions of the Florida commercial feed law. When necessary, laboratory analytical data are used as legal evidence to gain compliance with the law. The major portion of this analytical effort is devoted to cattle, poultry, horse and swine feeds. Determinations conducted on these samples are for protein, fat and fiber as well as routine analysis for moisture, ash, equivalent protein from non-protein nitrogen and total sugars.

Analyses are also made for minerals guaranteed on the label such as calcium, phosphorus, salt, iron, copper, cobalt, manganese, magnesium and zinc. Medicated feed additives commonly used in cattle, poultry and swine rations such as coccidiostats, wormers or medications to aid in stimulating growth or improve feed efficiency are also analyzed. The antibiotics, chlortetracycline, oxytetracycline and penicillin, used as additives and certain vitamins are determined. A thorough microscopic examination is made on each official sample. Findings are checked against ingredients claimed and any differences are noted and reported.

The cooperative forage testing program with the IFAS Cooperative Extension Service will be continued as an established program. Contractual agreement with FDA funding for analyses of medicated feed samples taken in connection with inspectors medicated feed mill inspection was maintained during the year and plans are to continue this program during the next fiscal year. During this fiscal year 76,210 separate analytical determinations were completed on 8,058 samples received.

Seed Laboratory

This bureau tested 11,998 samples during this fiscal year for a total of 41,101 determinations. There were 5,693 official samples of which 4.88 percent were "illegal" or serious violations and 9.64 percent were "misabeled" as minor violations.

There were 425 grow-out tests in the field to determine trueness to variety. Most of these samples were rye and a very noticeable improvement in labeling has occurred the past few years.

15 complaints by farmers were investigated and hearings held on nine complaints.

Food Laboratory

To assure a safe and wholesome food supply, this bureau analyzes foods by chemical, bacterial and physical means to verify the absence of adulterants, compliance with standards of quality and identity and to assure proper representation in nutritional claims and labeling. The laboratory is composed of the food chemistry, meat chemistry, and microbiology sections plus an administrative unit which facilitates compliance by reviewing and preparing food labels and providing advice to Florida food processors.

During this fiscal year, the program of general surveillance was strengthened by analyzing samples from 782 Florida food processors randomly selected each month from the 2,500 or more Florida food processors. Samples analyzed, both from in-state and out-of-state processors, totaled 9,666 involving 60,041 individual tests. State action was initiated on 22.16 percent of the samples analyzed.

In addition, meat samples are received routinely from 200 or more meat processors, various state agencies, and directly from Florida consumers. During the year, the laboratory examined Florida bakeries,

bottling plants, warehouses and other types of food processors under a continuing state-federal agreement.

The food chemistry section increased its surveillance of food nutritional claims and analyzed many bakery products, included under the state enrichment law, for their vitamin and mineral content. Concerted screening for saccharin content was conducted, resulting in several instances of substitution violations.

Many fruit juice products were analyzed, honey processors screened and machinery mold content of food investigated to evaluate the sanitation conditions during food production. These analyses were in addition to the many tests conducted for rodent and insect filth in foods, food additives, preservatives and artificial colors in foods.

Recently developed methodology involving new instrumentation was adapted for routine analysis of vitamins, additives, and preservatives in foods. Analyses of meat for protein, moisture, fat preservatives, nitrites, phosphates, added colors and extenders such as nonfat dry milk, cereal and soya products were continued by the meat chemistry section. Many meats were analyzed to determine the highest internal cooking temperature to which they have been subjected during processing to assure adequate bacterial control during storage. Major studies of suitable methods to detect bacterial control during storage. studies of suitable methods to detect extenders in meat were also initiated. A recently acquired Technicon AutoAnalyzer has been adapted for routine analysis of protein and phosphates in meats. The microbiology section analyzed for total bacteria in food as well as coliforms and *E. coli* since they are indicators of generally unsanitary conditions. Food poisoning bacteria such as *Salmonella*, *Staphylococci*, and *Clostridium perfringens* were also analyzed for in numerous foods.

During the year, problem areas that received special evaluations were as follows: oysters for free liquid content, breaded seafood for percent seafood content and filth, seafood and sandwiches for bacterial contamination, chocolate chip cookies and dried fruit for bacterial contamination and filth, mold in corn products, yeast in soft drinks, antioxidants and artificial colors in foods, new uses of soya in formed hams, honey for adulteration, evaluation of meat complaints from custom slaughter, ammonia in ice cream, and numerous canned foods were analyzed to verify adequate processing and absence of bacterial contamination.

The analytical capabilities of the food laboratory were increased by the development of new methodology for the analyses of honey, antioxidants and artificial colors by high pressure liquid chromatography, ammonia in ice cream and enzymatic digestion for estimating percent breadening in breaded seafood products. Also, a new gas chromatograph was adapted to fat and food additive analyses. Chemist and microbiologists of this bureau received very useful training during the year in new instrumentation, their applications to food analyses, and in microanalytical filth analyses. The bureau chief and assistant chief continued to present various food topics before consumer groups, food processor associations and university classes.

Methods Development Laboratory

The primary objective of this laboratory is to increase the overall analytical capability of the Division of Chemistry. During the past fiscal year, a Technicon AutoAnalyzer was incorporated into the food laboratory to automate protein and phosphate analysis in meats. High pressure liquid chromatography (HPLC) was successfully adapted for the analysis of several pesticide formulations, pesticide residues of oxamyl and methomyl on a variety of vegetable crops and several antioxidants in vegetable oils and food products. Preliminary work was initiated during the year on an improved HPLC procedure for the detection of aflatoxins in corn and cornmeal. Several other HPLC procedures have been explored including lactose in foods, picloram residues in water and soils, vitamin A in feeds and carbamate residues by minicolumn cleanup procedures. During the past year each bureau has improved its methodology capability through increased utilization of their designated methods liaison representatives to evaluate analytical problems at the bureau level. Close cooperation between the bureaus and this laboratory has resulted in the development and adaptation of new and improved methods for routine application by the laboratories.

Commodity Testing Laboratory

The Department of General Services has continued to utilize the test capabilities of this laboratory to (1) obtain information on the quality and performance of a wide variety of commodities to provide a basis for awarding state contracts for these items; (2) monitor the quality of and investigate complaints about the goods purchased from these contracts by various state agencies; and (3) develop test data which may be used to establish or revise state specifications for various commodities. At the present time testing is being conducted on laundry supplies, paper, paint, office supplies, janitorial supplies, textiles, office and school room furniture, and a growing list of miscellaneous items.

In response to the changing needs of the Department of General Services, the lab tested increased numbers of paint and janitorial products this year for both pre-bid evaluation and quality assessment of the purchased commodities that were delivered to state institutions. Tests for the percent available chlorine in bleaches and the acid number of soap fatty acids were performed for the first time on janitorial products, and a number of tests were initiated in order to establish compliance of paint with certain federal specifications.

19 types of janitorial products continue to be tested for the Department of Education to determine conformity with the specifications of the Florida School Plant Management Association. Products which meet the requirements are circulated on a qualified products list, from which local schools may select products of assured quality. A growing number of schools who use F.S.P.M.A. certified products have taken advantage of the opportunity to have samples of the delivered goods tested to assure that they meet the same requirements as those products which were originally certified.

This laboratory conducted 11,660 determinations on the 1191 samples analyzed this year, 54 percent of which failed to meet product specifications.

Laboratory Services

The primary duties of this section consist of receiving, preparing and distributing samples to the various laboratories for chemical, microbiological and physical testing. These samples shipped to Tallahassee primarily by official state field inspectors, consist of commercial fertilizers, feeds, seeds, formulated pesticides and various types of foods. Over 26 thousand samples were processed by this section during the fiscal year.

All samples received are logged in and assigned an official code number to preserve the identity of each sample throughout the entire investigative procedure. This official number is referred to when necessary by the chemists involved, without prejudice as to the specific manufacturer, dealer or consumer. For the samples requiring extensive preparation prior to laboratory analysis, procedures recommended by the Association of Official Analytical Chemists are carefully followed.

This section also has the responsibility of compiling and organizing the semi-annual divisional orders for all types of chemicals and glassware as well as the proper receiving and dispensing of the supplies necessary for the daily operation of all of the laboratories in the division. An inventory is maintained by this section of all surplus chemicals, glassware and other supplies in the division.

DIVISION OF CONSUMER SERVICES

Jane Wilson Robinson was appointed Director of Consumer Services in August 1976 by Commissioner of Agriculture Doyle Conner. She served in the Florida House of Representatives from 1970 to 1976 representing Brevard, Osceola, Indian River and Okeechobee Counties. She worked on newspapers from New York to Colorado ending with Washington, D.C. before moving to Florida in 1967.

Mrs. Robinson was born June 22, 1926, in Oklahoma City, Oklahoma. She attended schools in Mexico City, Hawaii, Manila, Philippine Islands and at the University of Oklahoma. She is married to George A. Robinson and they are the parents of four children.



The Division of Consumer Services was created in 1967 by the Florida Legislature, who provided the agency with a staff of only two at that time to serve as the state's clearinghouse for consumer complaints. With the recent advent of "consumerism" on the part of state and federal government agencies, as well as an increase in vocal consumers who are seeking assistance and relief, the staff has been expanded to 23. For the fiscal year July 1, 1976-June 30, 1977, the division handled 18,103 complaints either by telephone or through the mail.

New Staff Positions

In the time period covered by this report, the division has undergone major structural changes. The 1977 Legislature funded, for the first time, the position of staff legal counsel. This addition will enable the division to prosecute consumer fraud more extensively by developing investigative information for the basis of legal actions which are filed and prosecuted in the various circuit court districts. All cases are developed with the cooperation of local offices of various state attorneys as well as the attorney general's office.

The staff of consumer complaint analysts who handle the phone and mail contact with consumers was recently expanded from three to five; and a senior analyst was added to coordinate the activities by the analysts. Additional secretaries were hired to carry the increased paperwork flow.

New Projects

The past year has focused on two age groups of consumers for educational projects by the division staff: the elderly and college students. Student consumer unions have now been established on five university campuses within the state, with more projected. With the cooperation of the various student body governments, student volunteers were obtained to man these student consumer unions; and consumer services' personnel trained the volunteers in collecting and processing student consumer complaints. Techniques and guidelines were established on how to work with businesses, agencies and even university factions which complaints were received against. Because of the convenience in location, several Florida State University students who worked in the student consumer union on that campus served as interns on a quarterly basis with the division to learn more about complaint processing.

Additionally, a manual was recently completed by the division staff which will be co-published by the Department of Agriculture and the State Department of Education. This publication, referred to as a "Student Survival Manual", outlines information which would be useful to students living away from home. Credit, banking, landlord-tenant law, automobile repair information, and tips on food buying are just a few of the subject areas covered by the manual. A copy was available to every entering university freshman on the first day of fall quarter.

For the senior citizens, much has been done this year and much more is in the planning stages. Due to a marked increase in the number of complaints received against Medicare, (a result of the Department of

Health, Education and Welfare's district and regional health insurance offices forwarding all complaints they received against physicians and Medicare carriers to our agency) a series of public hearings were held in the Dade County area in order to hear public testimony on this massive consumer problem. Various senior citizens' groups from Dade, Broward and Palm Beach counties sent representatives to present oral and written testimony on the various inequities endemic to the Medicare process. A panel comprised of those individuals who are involved in the administration of this program, (physicians, insurance carrier representatives, state legislators, hospital representatives and consumer groups) collected the testimony, questioned the witnesses and answered questions posed by the audience. Transcripts of the proceedings were forwarded to both federal and state legislators, the various offices of the Department of Health, Education and Welfare, and other concerned citizens' groups, with the hope that legislation can be implemented to deal with the inequities of the program which are inflicted on the elderly.

In addition, through cooperation by the State Department of Health and Rehabilitative Services, federal money has been earmarked to enable the division to publish a newsletter dealing specifically with senior citizens' consumer problems. Too often in the past, Florida's retired residents fall prey to unscrupulous business ventures, and the division would like the opportunity to issue a warning on the current trends of "rip-off artists" as they become aware of them. Updates on pertinent consumer legislation affecting senior citizens will also be provided in the newsletter.

More on Legislation

The 1977 Legislative Session proved generous to the division, not only because of the additional staff positions funded, but because of the consumer legislation passed:

—The Mobile Home Tenant-Landlord Commission, created to study unconscionable rental increases in mobile home parks, was not only the first of its kind in the state of Florida, but the entire United States. Other state legislatures are already examining the measure for implementation in their own respective states. The seven-member Commission, to be appointed by the governor, will work closely with this division because of the number of mobile home park complaints received from the tenants. Staff worked closely with the sponsors of the legislation to help with its passage.

—The Home Solicitation Sales Act. This provides the three days buyer's right to cancellation to apply not only to home solicitation sales in excess of \$25, but applicable to sales transactions not solicited by the consumer and consummated by telephone. Additionally the measure, effective October 1, 1977, requires all businesses conducting home solicitation sales to provide to the seller proper identification in such a form as to be easily recognizable when presented to the prospective buyer. Such identification shall include: the seller's name, description and signature; the name, address and signature of the seller's supervisor; and indicate on the sales receipts the name, address and telephone number of the parent company or sponsor. Enforcement

authority for the legislation was placed directly in Chapter 501.052, Florida Statutes, with investigative authority designated to the division.

—Chapter 320—Motor Vehicles:

1. Placed bonding requirements on new motor vehicle dealers.
2. Recreational vehicles will not have the same standards to meet as mobile homes. Bonds for mobile home claims have to file surety rather (dealers and manufacturers) than performance bonds.
3. Used mobile homes will now have to meet inspection standards established by Division of Motor Vehicles before sale.

Although no legislation was passed as yet, progress was made by staff this year in breaking up some of the interstate service station rip-offs. By planting investigators at the locations of some of the stations in question, fraud charges were able to be filed by the state attorney's offices as well as the attorney general. Division Director Jane Robinson traveled to meet with all the major oil companies in an effort to find a lasting solution to the problem.

Additionally, through diligent work and extensive research on the part of staff, several consumer complaints analysts were requested to testify at out-of-state hearings sponsored by the Federal Trade Commission on used car sales; health spa frauds; credit practices; and mobile home warranties. The Interstate Commerce Commission also requisitioned a staff member to assist with weight-bumping by household goods carriers.

Statistics

For this fiscal year, the division received 42,637 pieces of mail. Of the 18,103 complaints handled, only 1,237 were referred to other divisions within the department, or to other state agencies. This indicates that 16,866 complaints were processed "in-house." Because the division does not exercise legal authority over businesses operating within the state, we must rely on good faith on the part of the business, and determination on the part of staff to accomplish equitable settlements for the consumer.

The top ten consumer complaints in descending order of frequency for the year 1976-77 were: 1. motor vehicles; 2. mail order; 3. contracting; 4. home furnishings; 5. electrical equipment; 6. fuel; 7. appliances; 8. credit; 9. advertising; 10. mobile homes.

On Computer

Through a special grant funded to the University of North Florida by the State Board of Regents (Service Through Applied Research) the division will soon be assisted in its operation by an on-line computer system. This will be a cooperative effort with numerous other state and local agencies, including: the attorney general's office; the office of the comptroller; the State Department of Education; the Department of Business Regulation; the Department of Commerce; and the Pinellas County Department of Consumer Affairs. Other agencies will be joining with our efforts at a later date.

This computer system will speed up not only the actual processing of consumer complaints, but will assist the agencies in the answering of daily telephone inquiries seeking information on businesses operating within the state. It will take approximately one year to become fully operational.

Tel-Consumer

This project is funded through a Title I Higher Education Act grant administered by the State Board of Regents to the University of Miami's School of Continuing Studies. The University of Miami will be assisted in the administration of the Tel-Consumer Project by the office of the Dade County consumer advocate, Mr. Walter P. Dartland and the Department of Agriculture and Consumer Services.

The purpose of Tel-Consumer is to develop a taped telephone consumer information system on 200 consumer-related topics to be placed on audio tapes. This information will be available on a state-wide toll-free WATS telephone line, and will be recorded in both Spanish and English. The segments will be recorded in two-minute increments, covering such topics as landlord-tenant problems broken down into sub-topics of security deposits, tenant responsibilities, landlord responsibilities, eviction procedures, etc.

This will be an action-oriented program, giving consumers specific information on what action they can take next and how to do it. The project will be operative by June, 1978. It will be housed within the Division of Consumer Services who will be charged with updating and maintaining the information provided.

Consumer Education

In addition to the work done by staff in the past year to educate college students and senior citizens, more publications are being written to educate consumers in the state who contact the division on various subject matters.

—Our list of available publications cover such areas as landlord-tenant law, solar energy, funerals, automobile repairs and information on warranties.

—A monthly newsletter, "What's Cooking of Consumer Interest," is mailed to more than 5 thousand households; and another 25 thousand pieces of educational literature on consumers' rights and responsibilities are mailed monthly.

—The division's staff is readily available to speak before citizens' groups, and this past year saw more than 10 thousand households reached through speeches, educational seminars and other public meetings conducted by the division.

—Each month, over 550 thousand households are reached through our "Consumer Alert" news releases in the radio, television and newspapers.

—By 1978, the toll-free WATS line number for the division should be listed in every telephone directory within the state.

—Billboards depicting the division's popular logo and toll-free WATS line phone number have been ordered and will be conveniently located throughout the entire state before the first of the year.

DIVISION OF DAIRY INDUSTRY

Jay Boosinger, Director of the Division of Dairy Industry, was born in Bradford, Pennsylvania, December 18, 1939. He is a graduate of Manatee County High School, Bradenton, Florida, and a 1961 graduate of the University of Florida, where he received a Bachelor of Science degree in Dairy from the College of Agriculture.

He served as a Dairy Specialist with the Division from 1964 to 1967, prior to his promotion as Assistant Director of the Division, a position he held until his appointment as Director in February, 1976.

Mr. Boosinger was named Sanitarian of The Year for 1972-73 by the Florida Association of Milk, Food and Environmental Sanitarians, and is currently Past-President of the Organization. He is a member of the Dairy Shrine Club, Vice-Chairman of the National Conference on Interstate Milk Shipments, and serves as Chairman of one of the three National Councils on Interstate Milk Shipments. He also has been President of the Southern States Dairy Divisions of the National Association of State Departments of Agriculture, and Past Chairman of the Florida Quality Milk Council.



The Division of Dairy Industry is responsible for the entire dairy program as described in the Florida Milk and Milk Products Law and the Florida Ice Cream and Frozen Desserts Law.

Since statewide reorganization in 1969, the Florida Legislature has given the Division of Dairy Industry added programs to administer, including the Milk and Milk Products Shelf Life Law in 1972, complete jurisdiction over dairy farms in 1974, complete jurisdiction of dairy processors in 1976, as well as state sanitation and survey program. This now leaves the Division of Dairy Industry as the sole agency responsible for the total complex dairy industry.

During the 1976-77 fiscal year the dairy division regulatory activities were rated by the U. S. Public Health Service, Food and Drug Administration, to insure that the quality of Florida milk and milk products sold in interstate commerce met the specifications of the U. S. Public Health Service Pasteurized Milk Ordinance.

The Division of Dairy Industry is comprised of the office of the director and three operating bureaus which function together to insure that only high quality milk, milk products, ice cream and frozen desserts are sold to the consumer.

Office of the Director

The office of the director is composed of a division director, assistant division director—agriculture, dairy consultant, and their secretaries. This office is responsible for furnishing administrative direction and support for the Bureau of Dairy Farm Inspection, Bureau of Milk and Milk Products Plant Inspection and the Bureau of Mobile Dairy Laboratory.

Bureau of Dairy Farm Inspection

The Bureau of Dairy Farm Inspection is responsible for all raw milk produced in Florida. This bureau makes sanitary inspections of all dairy farms in Florida as required by law, to see that each farm is operated in a sanitary manner and that the raw milk produced is of the highest quality. This bureau also collects samples to insure that the raw milk meets rigid quality standards.

The dairy farm bureau issues permits to farms after each farm demonstrates that it can maintain the required high sanitary and quality standards. It approves new construction, new equipment installation and any renovation to existing equipment or facility. It inspects bulk milk transports at the farm, insures that proper milking procedures are followed and insures that each farm observes Florida's rigid animal health regulations.

During 1976-77 the number of Florida dairy farms increased from 410 to 420. The dairy cattle on farms was listed as 201 thousand. These cattle averaged 10,234 pounds, which was an increase of 345 pounds per animal from the previous year. Continued high cost of production and the inflationary effect on feed, equipment, fertilizer and other necessary units of production continue to plague the dairy farmer. The dairy farmer is continually battling new problems in

workmen's compensation and adequate trained help continues to be a problem.

The dairy farm inspection bureau made a total of 7,295 inspections, visits and conferences with the dairy farmers, which averaged a little over 17 visits per farm per year. There were 5,215 official samples collected for analysis, which averaged 12 visits per farm per year. This bureau issued 164 hold orders involving 1,624,531 pounds of milk of which 373,799 were destroyed, and 522,432 were degraded and the balance was released to Grade A.

Brucellosis continues to be a serious problem in Florida's dairy herds. Much of this is caused by the close confinement of large herds. An active program of adult vaccination is being carried on and initiation of calfhood vaccination will be effective July 1, 1979, as was passed into law. The 1976 program for quality milk production listed 36 dairymen as recipients as compared to 42 in 1975.

Bureau of Milk and Milk Products Plant Inspection

The Bureau of Milk and Milk Products Plant Inspection is responsible for the program relating to all milk and milk products from the time the milk is picked up at the farm, delivered to the processing plant, processed, packaged and delivered to the consumer.

The bureau secures samples from all plants under its supervision and from out-of-state shippers for laboratory analysis, and interprets laboratory results to determine conformance with regulations or the existence of hazards to public health.

Additionally, this bureau surveys all dairy products manufacturing facilities and depots for conformances with sanitation and quality laws, so that the public can be assured that dairy products sold or offered for sale, are produced under sanitary conditions and are wholesome and fit for human consumption.

During the fiscal year, this bureau regulated 43 Florida milk and milk processing plants and 89 distributors of milk and milk products, as well as 40 ice cream and frozen desserts manufacturing plants. The bureau maintained a sampling surveillance program on products from 55 milk and milk products plants and 90 ice cream and frozen desserts plants located out of the state.

The bureau was responsible for collecting 7,004 official samples, 1,410 shelf life samples and made 3,409 inspections of these plants. During the year there were 331 pasteurizer checks, 535 thermometer checks, 127 new construction inspections and 1,225 consultations with dairy processors.

The 106 stop sales involved 817,383 pounds of products; of this total 359,135 pounds were released to Grade A products, 46,284 pounds were released to ungraded products, 377,823 pounds were destroyed and 34,141 pounds were returned to state of origin.

Bureau of Mobile Dairy Laboratory

The Bureau of Mobile Dairy Laboratory performs regular analyses on all milk, milk products and frozen desserts samples submitted by the dairy farm and milk and milk products bureaus' sampling surveillance program. Samples collected at stores by the Division of Inspection are also tested. It is of the utmost importance that this bureau maintain the ability to accurately and uniformly analyze these samples.

This bureau is composed of six laboratories geographically located throughout Florida to insure adequate laboratory coverage for timely analyses of product samples. This bureau conducts the Florida Department of Agriculture and Consumer Services Milk Laboratory Certification Program in conjunction with the United States Public Health Service to insure that all milk laboratories run analyses in a uniform manner. A chemist has been assigned the full-time responsibility of a laboratory evaluation officer, whose primary duty is to promote uniformity and accuracy in the six division laboratories and industry laboratories which request certification for raw milk testing. He conducts split sample programs in cooperation with the United States Public Health Service. He also has the responsibility for carrying out a testing and licensing program for butterfat testers. Under this program, 158 butterfat testers have been licensed.

The dairy laboratories located at White Springs on I-75 and Pensacola near I-10 sample and analyze raw milk and bulk tankers of pasteurized cream, condensed and blends which are shipped into Florida from other states. During the 1976-77 fiscal year, these laboratories analyzed samples from most of the 1280 transport loads of raw milk and 671 transport loads of other bulk dairy products imported into Florida. Twenty-six loads of raw milk (approximately 1,170,000 pounds) were rejected for failing to meet Florida standards, representing a rejection rate of 2.0 percent.

Florida is the only state having a milk shelf-life law which requires, by actual laboratory tests, that fluid dairy products be acceptable in flavor at least four days after the pull date placed on the container by the processor. By means of careful temperature controls, frequent milk tasting seminars and a shelf-life split sample program, a high degree of proficiency and uniformity has been reached in milk flavor evaluations by laboratory personnel.

A program for close supervision of milk hauler services and milk transport cleaning facilities was initiated during the fiscal year 1974-75. This program continues to be an important one and during 1976-77 has licensed 13 hauling services, 141 milk haulers, and performed 312 inspections. This program assures the maintenance of high quality milk from the farm to the plant.

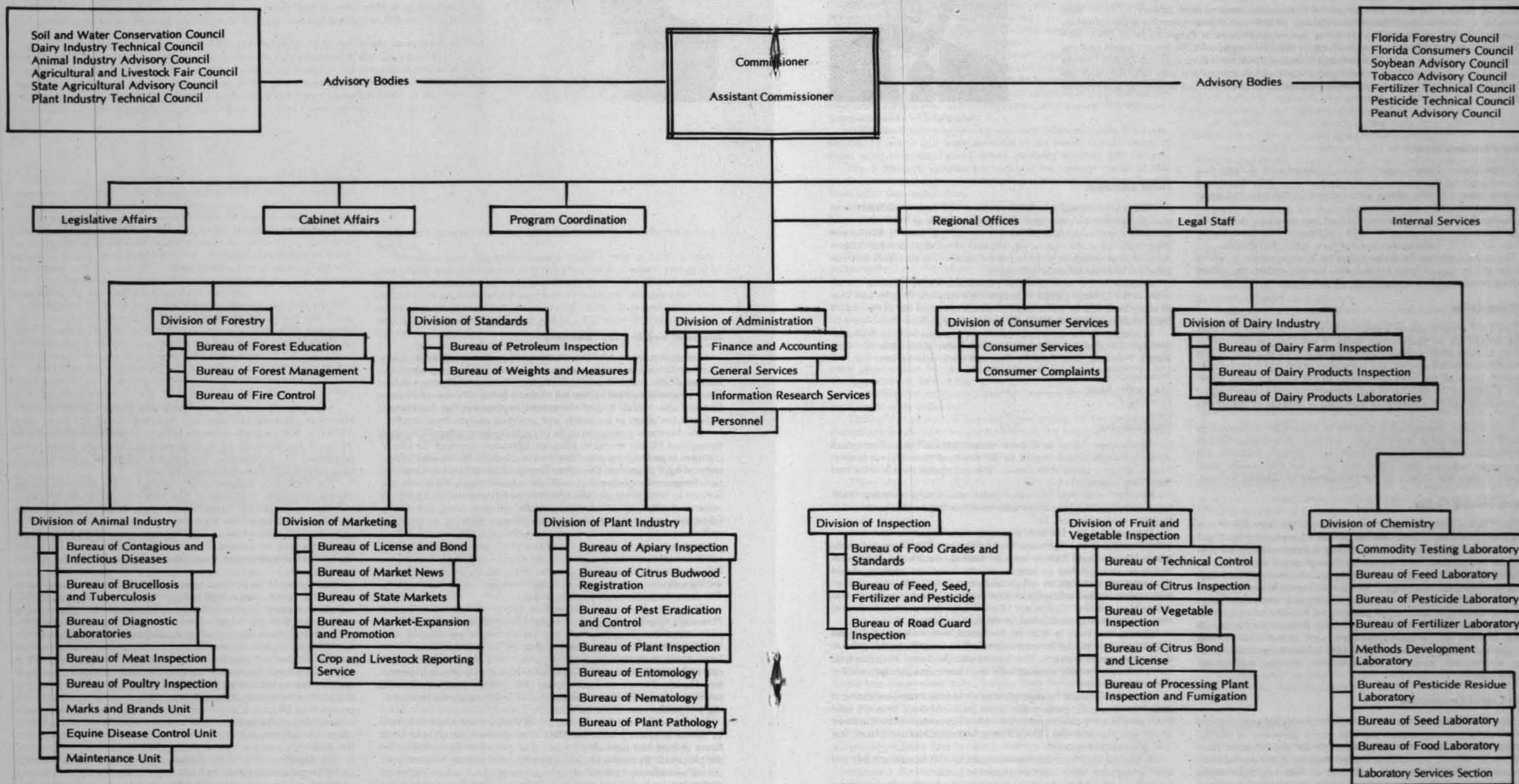
The Technicon Auto-Analyzer, located in the division's Winter Haven laboratory, continues to give excellent service for the determination of somatic cell count in all raw milk samples. Determinations by the machine have been accurate and uniform and have resulted in significant laboratory time savings. The same is true of the Milko-Tester for determining fat content. The Milko-Tester is also used for testing Dairy Herd Improvement Association milk samples for the state of Florida.

During the 1975-76 fiscal year, the mobile laboratory bureau was successful in obtaining a high pressure liquid chromatograph (HPLC) which is located in the Tallahassee laboratory. Our chemists, in cooperation with the manufacturer of this highly technical and complicated instrument, have developed a methodology for analyzing milk for Vitamins A and D content. As a result of the development of satisfactory methodology for A and D analysis, the chromatograph is now being used for routine surveillance testing of dairy products which show addition of Vitamins A and D on the label. Florida was the first state in the country to have the capability to analyze milk and milk products for Vitamin A and D content. The HPLC has the potential for determining all the nutrients which are required by nutrition labeling other than protein and heavy metals. Research will continue toward this end.

During the 1976-77 fiscal year, division laboratories received 21,089 regulatory samples. 145,289 analyses were performed at a cost of \$1.11 per analysis. 110,534 DHIA samples were also tested for butterfat content.

Florida Department of Agriculture & Consumer Services

Doyle Conner, Commissioner of Agriculture



DIVISION OF FORESTRY

John M. Bethea has been director of the Division of Forestry since January 1, 1970. Born November 4, 1919, at Sanderson in Baker County, he took a BS degree in Forestry at the University of Florida. He first joined the Florida Forest Service as a ranger in Panama City in 1941. After military service in World War II, from which he was discharged with Air Force Captain rank, he resumed employment with the Florida Forest Service in 1946. He was successively District Forester at Panama City, Assistant Chief of Fire Control, Chief of Fire Control and after 1963 the Associate State Forester, a post in which he was deputy administrator of the Division until he became director in 1970.



Forestry Advisory Council

Commissioner Conner appointed L. A. Woodward of Perry to a four-year term on the council to end August 24, 1980. Woodward succeeds Marcus Rawls, whose term expired, as the pulp and paper industry representative on the council.

During the fiscal year, the council held four meetings: August 25, 1976, Lake City; November 4, 1976, Withlacoochee State Forest; January 27, 1977, Tallahassee; and April 26, 1977, Tallahassee.

The council advises the division director in such matters as setting fees for public use of state forest lands, nursery operations, setting seedling prices and harvesting timber on state lands.

1977 Legislation

The 1977 session passed a law to encourage the planting of trees native to Florida on state-owned lands. It calls on the Division of Forestry to assist other state agencies using such lands in caring for and re-establishing native species. The Legislature noted that in many areas of public lands all the trees indigenous to Florida have been eliminated. It directed the division to aid in preserving and maintaining for the people of Florida a portion of their natural heritage of indigenous trees.

In other laws, special officers of the division were authorized to enforce litter and game and fish laws; the division was given further authorization to control burn wild lands under certain conditions, and state-owned vehicles and equipment used for fire control were exempted from the control of the Department of General Services.

Central Training Facility

The Central Training Facility at Withlacoochee State Forest was completed and went into full operation. The main meeting room will accommodate 150 persons, and dormitory accommodations are provided for 112 persons. For the first time, through use of this facility, the fire control bureau was able to develop and maintain uniform high levels of training for new rangers. Two sessions are held yearly, spaced several months apart, in which all new rangers now receive 184 hours of formal training in fire control procedures. Training was begun for new dispatchers. The Central Training Facility also was used for a wide variety of other special training sessions, such as instructor training, management for supervisors, advanced fire behavior, forest land planning, reforestation training, sawmill studies and log and lumber grading courses.

Fixed Capital Construction

Several building projects were completed during the year. Some of these were the environmental pavilion and a dormitory at Withlacoochee State Forest; the environmental center at Blackwater River State Forest; several structures at Herren Nursery at its new location; 25 campsites, restrooms and a pavilion at Pine Log State Forest Environmental and Recreational Center; and restrooms at Black Creek Nature Trail.

Forest Education

The environmental education center at Withlacoochee State Forest was completed and operated during the summer of 1977. With one environmental education center already in operation at Blackwater River State Forest, the new facility—dormitories and support buildings—more than doubled the potential enrollment in the division's summer program of environmental education.

Because of the new facility at Withlacoochee State Forest, enrollment in the summer camps increased from about 80 the previous year to more than 470 in 1977, most of which occurred not in the instant fiscal year but after the 1977-78 year began July 1.

In addition to the residential environmental education facilities, the division operated day centers at both, and also at the other two state forests, Pine Log, near Panama City, and Cary, near Jacksonville.

Attendance was:

Blackwater River	752
Pine Log	227
Cary	3,765
Withlacoochee	320

The forestry camp at O'Leno State Park for Future Farmers of America members took in girls for the first time in its 43-year history. Nearly 20 girls, along with almost 70 boys, attended each of the two weeklong camps.

Florida's state tree, the sabal palm, and specimen orange trees were included in a special Bicentennial planting by the Smithsonian Institute in Washington, D.C.

Six issues of the Division's internal newsletter, "Forestry News" were distributed to employees. Four editions of "The Reporter" were printed to distribute forestry news to interests outside the division. A brochure was printed to emphasize the need for applying forest management methods in urban sections of the state. An updated informational sheet was produced on Withlacoochee State Forest, and a brochure entitled "Coldwater Horse Trails" was produced on trail-riding opportunities at Blackwater River State Forest.

During the year, a total of 31 feature articles entitled "Wood Words" was produced for county and urban foresters to distribute to their news media contacts. The bureau also produced 30 major hard news releases, mostly dealing with the state's drought and wildfire conditions.

Almost 100 Future Farmers of America forestry teams, consisting of about 1,000 pupils, participated in six area field days. Winners from each area forestry contest participated at a statewide field held at Perry in conjunction with the Florida Forest Festival. Chiefland placed first and Blountstown second.

A total of 26,650 seedlings were sent to 550 Florida schools and civic groups for Arbor day ceremonies in January.

A total of 38 libraries participated in the Smokey Bear summer reading program. Nearly 7,000 children were enrolled in this program.

Fire Control

This year's fire season was the worst in North Central Florida in more than a decade.

It was marked by fires that began in February's severe dry cold and lasted into a long spring and summer drought.

As century-old cold records were shattered and snow flurries fell throughout most of Florida, February fire totals were nearly double the previous seven-year mean for that month.

During the first six months of 1977, there were more than 50 blazes which burned more than 500 acres each.

By year's end, 11,301 fires had burned 210,011 acres of forest and wildlands, which is 0.8 percent of the 24,242,642 acres protected by the Division of Forestry. Last year, 8,758 fires destroyed 149,242 acres.

The fire rate was 43.1 blazes per 100 thousand acres protected this year and 33.4 last year. The average acres per fire were 18.6 this year, compared with 17.0 last year.

While the state's southern tip was relatively wet during this entire period, 15 major fires were recorded in dry North Florida. Many of these were in planted pines where mortality reached 100 percent.

The 5,500-acre Trenton fire required the salvage cut of 37,500 cords but often younger precommercial stands could not be salvaged from other late season fires.

Lightning fires numbered approximately 20 to 60 a day in northern Florida during the months of May and June. Fire fighters and equipment were frequently moved from relatively quiet South Florida to assist district operations in the north.

Two forest rangers were injured, one of them seriously, while assisting the U. S. Forest Service in fire suppression activities on the Apalachicola National Forest near Tallahassee.

The period ended on an ominous note with the beginning on July 9 of the San Pedro Bay fire, which eventually burned about 2,400 acres of forest lands during the middle of the state's normally "wet summer season."

In the rural community fire protection this year, Florida received \$90,140—and had 115 applications which totaled \$858,321. Funds were approved for 90 requests including \$87,358 for equipment and five applications for training.

Under the Federal Excess Property Program, 80 vehicles and other equipment were obtained.

During the year, 375 firemen representing 42 fire departments completed the division's eight-hour brush fire training course. While many municipal fire departments have their own brush fire training programs, volunteer fire departments look to the Division of Forestry for instruction in this area.

There were 12,513 response calls to brush and grass fires by leased RCFP vehicles reported during the year. During the North Florida drought, volunteer units rendered invaluable assistance in the mop-up of major forest fires.

Although arrangements were completed last year for the use of the U. S. Army's "Sky Crane" CH-54 helicopter for air lifting equipment into forest fires, it was not called on this year because most of the blazes were located in accessible areas.

However, the Division of Forestry has reconfirmed arrangements with the Army for emergency use of the giant helicopters should they be needed.

The 478th Aviation Company of Fort Benning, Georgia demonstrated the practicality of transporting D-4 class tractors at a test lift in the Big Cypress Region of the Everglades where there is major need to move tractors over rocky terrain.

Normal walking speed there is often one mile per hour and many forest fires occur more than 20 miles from the nearest highway.

Another bright spot has the success of substituting a D-4 Caterpillar Low Ground Pressure (LGP) unit with a specially constructed Vee Blade for a conventional D-6 bulldozer unit. Cost on the LPG is about half that of the conventional unit. The LPG appears to be a superior answer to problem fires in heavy swamps and coastal palmetto.

Still another successful project has been the use of South Florida (Everglades) Bombardier tankers in North Florida swamps. When abnormal drought requires water for mop-up in swamps and boggy terrain, even 4WD pumpers often fail to do the job.

The full-tracked, low-ground pressure Bombardier can deliver 360 gallons of water to otherwise inaccessible areas. Unlike tractor-drawn water trailers, it can rapidly return to water refill locations over swampy terrain.

Construction of a 800-gallon DC-3 air tanker was still under way at the close of the period.

During the fiscal year 9,244 violations were investigated by division personnel and 410 persons were required to pay a penalty by arrest, payment for damages, or suppression charges.

In addition, 1,427 written warnings were issued to negligent violators of Florida's Forest Protection Laws. At the end of the period, 69 criminal cases and 39 suppression cost cases were pending. During this period, four regards totaling \$300 were paid.

During 1976, the three principal causes of fires were incendiarism (29.7 percent), railroads (4.3 percent), equipment use (4.3 percent), miscellaneous (3.2 percent) and camp fires (1.4 percent).

A mobile communications center built in a converted military ambulance was completed and placed in service.

The unit has a four-channel radio for communications with both forestry and public safety services, a collapsible antenna and motor-generator set and is equipped with all the accessories required for self-contained operation. Stationed at Fort Lauderdale district headquarters, it will be available for emergency communications in natural disasters, as well as for forest fire control operations.

The dispatch facility modernization program, reported in the previous report, is continuing. The division has established two repair shops for portable radios at Perry and Ft. Myers.

In general, air patrols remained the same as the previous year and guaranteed minimums were continued for all seven contract patrols. This policy has enabled us to stabilize our per-hour costs and retain experienced pilot contractors.

Because of dangerous fire weather conditions throughout much of the year, total aircraft activity increased by almost 50 percent to 5,004.5 hours. A large portion of this time was devoted to contract patrols and transportation of fire personnel. Due to the type of fires, along with other related operational reasons, the tanker flight time remained about the same as the previous year.

During the period there were 20 preventable and 22 non-preventable motor vehicle accidents with an estimated cost of \$55,956.38 for repairs. A continuous safety program is carried on by the division. Each district, state forest, and nursery has a safety officer to carry out the division safety program and all employees are given a multi-media first aid course by qualified American Red Cross instructors. There were no fatalities resulting from forest fire suppression.

The National Fire Danger Rating System (NFDRS) which has been used by the division since January 1, 1975, to assess the danger of fire in the state's woodlands is being updated. The new NFDRS will become operational January 1, 1978.

The changes in the system will improve the response of the NFDRS to drought, increase the sensitivity of ratings, improve the parameters of existing fuel models and add additional fuel models.

The use of transects to evaluate the herbaceous vegetation condition no longer will be necessary. Components and indexes will be computed from nomograms, rather than being obtained from tables.

The planned statewide operation of AFFIRMS (Administrative and Forest Fire Information Retrieval and Management System), a program by which fire weather observations and forecasts are entered into a computer via a data terminal, and fire behavior components and fire danger indexes are computed for instantaneous display and use, was deferred until the 1977-78 fire season.

It is planned to operate the system statewide with a data terminal in each of the ten forecast zones from January through May, 1978.

Forest Management

During the period, management assists to landowners, primary wood-users and local governments totaled 16,199. Division foresters prepared 529 forest management plans on 133,073 acres, while technical assistance in reforestation was given to 658 landowners on 11,849 acres.

Foresters of the division also gave 350 assists in comprehensive planning to local governments, provided assistance on 111 environmental impact studies on 2,076 acres and on 130 tree protection ordinances and plans. Technical assistance was given to 24 municipalities and counties in the development of individual tree nurseries. In addition, nine tree canopy analyses, nine vegetative inventories and 124 beautification and noise abatement projects were completed in urban areas. Shade tree diagnosis totaled 2,797 assists on 43,465 acres.

The Naval Stores Conservation Program, funded for calendar 1976 after a non-program year, was considerably streamlined with cost-sharing available for first-year elevation and virgin faces.

The Forest Products Utilization Program continued to expand in the areas of harvesting, sawmilling and secondary wood-using with several special short courses being conducted.

The Improved Harvesting Program aided forest industry and landowners in maximizing the utilization of forest resources during harvesting operations, and encompassed the fields of safety, maximum product utilization, efficient harvesting methods and business management. The Sawmill Improvement Program was expanded to include training. At the close of the period, a sawmill was nearing completion at Withlacoochee State Forest for the purpose of training division and private industry personnel.

To provide information about the forest resources to forest planners and wood-using industry personnel, the division produced six major publications and study results, "1975 Commodity Drain Report of Florida's Primary Forest Industries", "Florida's Wood-Using Industries, a Directory", "Estimated County Income from Forest Products—Florida 1975", "Update 76—Florida's Timber Resources", "Doubling the Growth—Six-Year Progress Report", and "Potential Treatment Opportunities for Accelerated Forest Management—1976".

The division coordinated and directed the Forestry Ad Hoc Technical Advisory Committee in assisting the Department of Environmental Regulation in promulgating cost-effective Best Management Practices (BMP's) to control nonpoint pollution. A slide-tape program was produced which described water quality parameters that may be influenced by harvesting activities and outlined general recommendations to minimize those influences. All CFM foresters were trained in the modified-Musgrave method of estimating sediment production from forestland.

During the fiscal year, the division initiated an urban wood residue study to determine the amount and identity of wood residues being placed into four landfill sites, and, after analysis, to ascertain how these residues might best be used.

A minority landowner assistance study was completed during the year to determine why minority landowners had such low participation in public forestry assistance programs.

Under the Forest Incentives Program (FIP), 248 management plans covering 40,001 acres were prepared, and 28 management plans covering 3,801 acres were revised. Tree planting accomplishments included 177 landowner assists on 6,288 acres. The Agricultural Conservation Program (ACP) showed 19 management plans on 1,181 acres and 147 reconnaissance assists covering 15,065 acres. Tree plantings included 108 assists on 2,107 acres, while two landowners received forest range management assists on six thousand acres.

The Suwannee River, West Florida and Three Rivers RC&D Projects were quite active during the year with the latter two establishing arts and crafts guilds. Additionally, the PL-566 Pond Creek Watershed Project, plagued by flood, hurricane, tornado and a subsequent drought, ground virtually to a halt.

The annual statewide aerial detection survey showed overall losses declined by some 30 thousand cords and that Ips bark beetles caused most of the mortality. Numerous insect outbreaks occurred during the year with the southern pine beetle attacking some 12,400 trees in Leon and Liberty Counties. All of the damage involved Loblolly Pine stands that had not received proper forest management. Salvage operations contained the infestation and prevented spread. The forest tent caterpillar attacked approximately 25 thousand acres on which the turkey oak was the primary host, the pine sawfly lightly infested 30 thousand acres of planted sand pine, pitch eating weevils caused some damage to seedlings and small saplings, and the pine chafer developed large populations in Calhoun County, attacking planted Loblolly Pine.

Under the disease heading, pitch canker continued to be severe in East Central Florida, cone rust was common on Slash Pine cones during the spring, and needle cast was noticeable in many parts of the state.

A joint Division of Forestry and USFS publication "Laboratory Analysis of Pitch Canker Samples from Florida Slash Pine Plantations and Seed Orchards 1976" was completed along with 36 leaflets of insect pests of native and introduced trees of South Florida.

A training program was prepared to meet the requirements of the Local Government Comprehensive Planning Act of 1975. A three-day workshop, utilizing this material, made available to division foresters basic instructions in forestland planning. Environmental impact statement and review work declined during the year, while an active liaison with several organizations was maintained in order to provide pertinent information on forest management to their planning and research groups.

A division forester was assigned to the Soil and Water Conservation Council in August with the major goal of increasing DOF/SWC interaction through liaison between DOF, SWCC, FACD, SWCD's and SCS. Approximately 40 meetings were attended by our forester.

Over 37 million bare root seedlings were sold during the year. This represented a considerable decrease, due primarily to the root rot problem at Andrews Nursery. The number of bare root and potted stock seedling orders decreased slightly, however, potted stock sales increased somewhat. Production of containerized Eucalyptus seedlings increased dramatically during 1977 which was the first year of production at the new Lake Placid Nursery.

The Miami Coconut Seed Orchard made satisfactory progress during the period; however 10 thousand seedlings died as the result of winter's freezing weather. Approximately 175 Malayan Dwarfs were planted with a high level of survival expected. Pine Log State Forest acquired a boat ramp and parking area in cooperation with Bay County, and an environmental education center and campground were completed through the Title X Program. More than two thousand acres were control burned for wildlife and forest management purposes in 1976-77.

Blackwater River State Forest completed its most successful year with receipts totalling over \$3.2 million. Almost \$2.7 million of this figure came from timber sales and mineral leases. Recreation activity saw 142 thousand day-use visits and 55 thousand overnight campers.

Withlacoochee State Forest accomplishments revolve around general public use of the forest. There were almost 190 thousand day-use visits recorded and 193 thousand overnights. The environmental education center got in full swing and was used extensively for division training, environmental education, the Youth Conservation Corps, and activities by other agencies and conservation groups. A field trial and quail management area was under construction at year's end. Timber receipts were in excess of \$530 thousand.



DIVISION OF FRUIT AND VEGETABLE INSPECTION

Herbert M. Riley was born April 5, 1904 in Butler, Georgia. He was graduated from Gordon College in 1923 and employed by the Federal-State Inspection Service of the Department in 1927. He remained in that capacity until July 1, 1939, when he received Federal Civil Service appointment. He became supervisor of Florida in charge of inspection of fruits, vegetables, and nuts for grade, quality, and condition under a cooperative agreement between the United States Department of Agriculture and the department. Mr. Riley was appointed director of the division November 1, 1963.

The Division of Fruit and Vegetable Inspection is responsible for the inspection of all citrus, both fresh and processed, in accordance with the Florida Department of Citrus and regulations of federal marketing committees. The division is also responsible for such inspection of fruits, vegetables, melons, nuts and grain as may be requested, or as may be required under marketing agreements and price support programs.

Inspection of fresh fruit and vegetables is performed by inspectors through cooperative agreements between the Florida Department of Agriculture and Consumer Services and the United States Department of Agriculture. Processed foods inspection is handled through contractual arrangements between the commissioner of agriculture and the United States Department of Agriculture.

In addition to inspecting fruits, vegetables, nuts and grain, this division is also responsible for the fumigation of all grapefruit shipped to Japan.

Detailed report of this division's activities for the 1976-77 fiscal year will be found in its annual report, issued from Winter Haven. This particular report will summarize the highlights only.

Citrus Inspection

The Bureau of Citrus Inspection is responsible for inspecting and certifying all citrus fruit to be shipped in fresh form. Certification requires that fruit meet all applicable federal and state standards and state of Florida citrus fruit laws as well as Department of Citrus Rules and U.S.D.A. growers administrative committee regulations. This past season more than 58 million 4/5 bushel boxes of citrus fruit were processed and shipped in fresh form from approximately 140 packing houses throughout the state. Total shipments were down approximately 23 percent from the previous season, due primarily to the serious freeze which occurred in January.

Over 750 thousand 1-3/5 bushel boxes of citrus fruit were destroyed or diverted to non-human food resources such as cattle feed, by both cannery and fresh fruit inspectors. Again the freeze was the primary culprit in so high a loss.

Because citrus inspection is mandatory, all truck passings are checked for proper certificates and loading manifests by the road guard bureau at highways leading out of state and all westbound Suwannee River crossings. The road guard bureau cooperates fully with the citrus bureau in this regard.

Also, in cooperation with the Department of Citrus, the bureau makes regular inspection of all gift fruit shipments and all citrus roadside stands. Over 30 thousand such inspections were made during the shipping season. Although a portion of the cost of this program is underwritten by the Department of Citrus, the responsibility of enforcement is charged to the citrus bureau. A vast improvement in the quality of fruit handled by these sources has taken place since the inception of this program.

The bureau also maintains close cooperation with the division's statistical, personnel and fiscal sections, whose major responsibilities are listed as follows:

1. The fiscal section handles all financial activities of the citrus bureau. Preparation of payrolls, auditing of expense vouchers, purchasing and issuing of supplies to all field personnel were some of the larger activities handled. In addition, the final preparation of the legislative budget and preparation of fee reports for industry fee committees are responsibilities of the fiscal office.

2. The statistical section audited 39,959 fresh and 10,801 cannery certificates, and 496,104 cannery memorandums for billing and statistical purposes for the bureau during 1975-76.

A comprehensive auditing is always executed to obtain a correct billing for each shipper or processor, and a close check is made of fresh certificates to see that the grade and sizes meet current growers administrative committee regulations and the Florida Citrus Commission rules.

In addition, some of the other forms audited, coded or checked by this section included packinghouse manifests, manifest certificates, inspection preliminary note sheets, canner's report of fresh fruit receipts, fruit destruction and regrade forms, plant board scale certificates and USDA daily inspection reports.

During the past season, the statistical section issued daily, weekly, monthly and annual statistical reports on movement of Florida citrus, in addition to reports on export fruit, diverted fruit, fruit destroyed and fruit shipped out under containers by special Florida Department of Citrus permits. The following utilization table shows the tremendous tonnage of citrus fruit involved in these reports during this past season, with detailed information available from the Winter Haven office.

Certified Fresh Fruit Shipments Standard 4/5 Bushel Box Equivalent

	1976-77 Season	1975-76 Season
Grapefruit	30,938,160	38,781,219
Oranges	22,527,020	29,933,782
Tangerines	5,025,240	7,043,195
TOTAL	58,490,420	75,758,196

Cannery Commercial—1-3/5 Bushel Box Equivalent

Grapefruit	35,112,035	28,724,501
Oranges	183,109,329	175,932,387
Tangerines	1,990,007	1,766,919
Other Fruit	1,045,794	981,839
TOTAL	221,257,165	207,405,646

3. The personnel section reports they are hiring fewer inspectors due to the economic situation, but this situation has enabled them to hire better qualified people to fill the positions due to the many applicants applying.

The transitory nature of the inspection service is still causing them to lose good inspectors. However, by maintaining close contact with USDA and with the cooperation of the other states' personnel officers, all personnel needs were met.

The training office is constantly upgrading their inspectors training program for both new and returning inspectors. This training usually takes place before their field assignments begin in the fall. The training is given the inspectors on an individual basis as well as group instruction, at the Winter Haven office and other selected field points.

Bureau of Citrus License and Bond

This bureau is concerned with those sections of the Florida Citrus Code pertaining to citrus fruit dealer's bond requirements, issuance of citrus fruit dealer's licenses, citrus fruit dealer's agent registrations, packing house and cannery registrations and field box mark or brand certificates. A complete listing of all citrus fruit dealers and their agents is compiled several times each season.

Administrative responsibilities include extensive field work in the investigation of purchases or sales of citrus fruit in all forms. Complaints involving citrus fruit are filed with the commissioner of agriculture and handled as provided for in the Citrus Code and other applicable statutes.

The appropriate order, based on sworn testimony, is entered in the matter by the commissioner with provision for suspension of license for failing to comply.

All interested parties are served with the order and the file is closed upon compliance.

Bureau of Technical Control

The Bureau of Technical Control furnished technical services to the division and to the industry through extensive administrative, laboratory and field duties.

A. Administrative responsibilities included:

- (1) Coordination of fresh fruit testing at processing plants with the finished product inspection.

- (2) Technical consulting and other services to the industry and related agencies.
 - (3) Furnishing of comprehensive tabulated weekly data on the internal quality of all fruit received at processing plants.
 - (4) Auditing and verification of yield data at processing plants.
- B. Laboratory duties included:
- (1) Analysis, approval and licensing of fruit treatment materials.
 - (2) Preparation and issuance of field equipment and chemicals to field inspectors for maturity testing and internal quality.
 - (3) Enforcement of the arsenic spray program.
 - (4) Monitoring of pesticide residues on citrus fruits and in citrus products, including ethylene dibromide residues in export fruit. Major efforts went again into the analysis of fresh fruit samples for fungicide content, and in spite of the season being curtailed by the freeze of January 20-21, some 600 separate determinations were made for pesticides and/or specific fungicides.
- C. Field responsibilities during the past season were again extensive in the areas of servicing and maintenance of specialized equipment, and automation of testing procedures and equipment.
- (1) The routine but heavy schedule of servicing and maintenance required a continuing effort in the setting, maintaining and servicing of 109 AMC Model 2700 single-head extractors, principally in the test-rooms of packinghouses. The old light-duty service truck was replaced by a new vehicle, with hydraulic lift-gate, for better handling of that equipment.
 - (2) At the processing plants, a much more intensive program of service and maintenance was necessary because of the freeze. Some 57 FMC Model 091B testroom extractors were constantly checked for uniformity of operation by means of the truck-mounted extractor control unit. The service program was expanded to cover much of the sampling and related equipment used for load evaluation purposes, because of the very heavy fruit utilization and the necessity to keep that equipment in operation.
 - (3) The mechanization and automation program to increase the accuracy and effectiveness of load evaluation inspection at processing plants, which was pilot-tested at five

Citrus Bond and License Report

Total amount of citrus fruit dealer's bonds	\$16,099,000.00
Total amount of registered shippers and/or cannery inspection fee guarantee bonds	816,050.00
Total amount of surety bonds posted by dealers advertising as "Bonded Shipper" in accordance with Chapter 57-4, Laws of Florida	159,000.00
Certificates as provided by Department of Citrus, Rule 20-43.04 issued on request to dealers posting performance bonds	147
Licenses issued to "Bond Exempt Dealers"	220
All citrus fruit dealers licenses issued	1632
Manufacturer's licenses issued	13
Citrus packinghouses registered	196
Canning and/or concentrate plants registered	64
Registered agents of citrus fruit dealers	776
Complaints disposed of	86
Complaints pending	33
Complaints dismissed	7
Amounts paid to claimants by dealers	59,743.85
Amounts paid to claimants by sureties	87,553.26
Revocation of License proceedings	1
Administrative Hearings — Prehearing Conferences	52
— Final Hearings Held	36
Fines imposed by Commissioner of Agriculture	0
Licenses suspended by Commissioner of Agriculture	7
Licenses cancelled by Commissioner of Agriculture	13

plants last season, continued this season, and required a tremendous amount of technical supervision. As pointed out in previous reports, each of the testrooms at those five plants was equipped with identical systems for electronic weighings for juice content, titration for acidity, determination of degrees Brix, with computerized calculations and printout of inspection certificate. Certain modifications and adjustments had been incorporated in each system after the previous season, and only a short period of verification testing had been anticipated before going completely to the new systems. However, the freeze introduced certain new problems, and it was not until spring that the new automatic equipment became official for certification purposes. The expansion program to include all processing plants will be delayed for perhaps another season.

Bureau of Processing Plant Inspection and Fumigation

The Bureau of Processing Plant Inspection and Fumigation has the responsibility for the inspection and certification of all fresh citrus for processing and the fumigation and certification of all citrus for export to Japan. This past season more than seven thousand trailer loads of citrus were fumigated in the two fumigation stations located at Winter Haven and Fort Pierce for a total of 7,030,876 4/5 bushel cartons. This was an increase of approximately 1,400 thousand cartons over the previous season. Fumigation is carried out over a 24-hour period using 20 trained department personnel during the peak periods.

This past season 88 percent of all citrus was inspected and certified by trained field personnel of processing plants statewide. This inspection is made initially for conditions to prevent the processing of unwholesome or decayed fruit, and then for maturity and internal quality. The internal quality analysis is used by processors for blending purposes as well as for determining the value of the load to the grower. This past season some 496 thousand load evaluations were made by trained personnel under this bureau. This represents an increase of 42 thousand over the past season. This bureau works closely with the Bureau of Technical Control to assure that the equipment used in the extraction and testing process as well as the sampling system is maintained in a satisfactory condition to assure accuracy as well as uniformity.

CANNERY COMMERCIAL (1-3/5 BUSHEL EQUIVALENT)

	1976-77	1975-76
Grapefruit	35,112,035	28,724,501
Oranges	183,109,329	175,932,387
Tangerines	1,990,007	1,766,919
Other Fruit	1,045,794	981,839
	221,257,165	207,405,646

An additional responsibility of this bureau is monitoring the staffing of all fresh fruit packing houses and processing plants statewide. Staffing is based on man-hours per box at packing houses and man-hours per load at processing plants. Weekly tabulations are made for each packing house and processing plant showing the order of effectiveness. An annual report listing each packing house and processing plant in order of effectiveness is given to appropriate personnel for each packing house and processing plant. A substantial reduction in personnel has been accomplished by using this system of monitoring.

Vegetable Bureau

The Bureau of Vegetable Inspection inspects and certifies approximately 30 different commodities. About 65 percent of total inspections are made under federal marketing agreements, and also peanuts are

covered under the federal price support program. Commodities covered under these marketing agreements are peanuts, tomatoes, limes and avocados.

Our voluntary inspection program has been enhanced by agreements with many of our shippers to not only certify government and Canadian shipments, but to perform quality control work on a continuing basis. This enables the shipper to grade and pack his produce under the guidance and supervision of a licensed inspector.

In a year wrought by a severe January freeze and early summer drought, the sturdy vegetable grower has overcome problem after problem to keep a constant flow of Florida vegetables to this nation's consumers.

The vegetable bureau is indeed proud of the Florida growers as well as its dedicated employees. At a time this country is so concerned with energy shortages, the growers of this state should feel a great satisfaction in their accomplishments in helping to supply the most necessary source of energy, "Food". The principal products inspected were as follows:

	Packages	Equiv. Carlots
Tomatoes	21,848,562	17,776
Corn	801,713	1,066
Celery	967,540	1,415
Potatoes	1,610,215	3,261
Cabbage	833,088	1,273
Limes	650,095	993
Avocados	817,731	1,248
Peanuts:		
Farmers' Stock	70,937	Tons
Shelled Stock	138,537,000	Pounds
In Shell	6,247,200	Pounds

DIVISION OF INSPECTION

Vincent Giglio joined the department as an inspector in 1953. Following promotions to supervisor and assistant director, he was appointed division director October 1, 1967. A native of Tampa, he was educated in the public schools and received a degree in horticulture in 1949 from the University of Florida after serving in the Army Air Corps from 1943-45. He recently retired from the Air Force Reserve with the rank of Colonel.



The purpose and objective of the Division of Inspection is the administration and enforcement of the feed, fertilizer, pesticide, seed, certified seed, food and poultry and egg chapters of the Florida Statutes. In addition to full responsibility under these seven chapters, the division lends vital support to enforcement programs of the citrus, fruit and vegetable, milk, livestock, plant industry and weights and measures laws.

The division is structured into three bureaus under the direction of an administrative unit. Each bureau is concerned with enforcement of specific laws and is staffed by inspectors trained as specialists in a given area of enforcement. Each new inspector, often a college graduate, receives comprehensive training prior to working independently. His professionalization continues through participation in ongoing training programs, including individual instruction, group conferences, seminars and workshops. Three-fourths of the divisions 370 employees are field inspectors who are strategically located throughout the state. Each is conferred with statutory authority to enter and inspect premises, secure samples, stop-sale or destroy violative products, or seek further administrative action such as penalties or fines and injunctive or other court action.

Nearly two-thirds of the division's regulatory programs are funded from inspection and licensing fees. Only food inspection, which directly serves each citizen of the state, and road guard inspection, which supports regulatory activities of several departments of state government, are partially supported by general revenue funds.

Approximately 80 percent of the division's budget goes for salaries; the remaining 20 percent is distributed among expenses, capital outlay and data processing. The food grades and standards bureau utilizes about 40 percent of the total division budget; the road guard bureau 35 percent; the feed, seed, fertilizer and pesticide bureau 22 percent and the administrative unit 3 percent.

The divisions's activities continue to adapt to current areas of concern of legislature and the people of the state. The preliminary phases of the pesticide applicators' licensing program are nearly completed. In addition to the programs associated with Florida statutes, the division has continuing contracts with the federal government in the areas of poultry and eggs, medicated feed mills, pesticide application and food plant inspections.

Food Grades and Standards Bureau

The objective of this bureau's activities is dual in purpose. Foremost is protection of the public against food-borne health hazards, and collaterally, prevention of economic loss to the consumer through intentional or inadvertent merchandising deceptions. Enforcement of the food law has been a continuous function of this department for some 70 years.

General activities include inspection of product and facilities at the producer, processor, distributor, retailer, i.e., wherever food products are manufactured, processed, held or offered for sale. In addition, the past several years have brought a dramatic increase in the number of consumer complaints regarding food.

Inspectional facets include ascertaining suitability and sanitation of buildings, grounds, facilities, operations, processes, storage and transportation and personnel. Methods include organoleptic, on-the-site chemical and physical testing, weighing and measuring, drawing samples for laboratory analyses and others. Regulatory enforcement may involve stop sales, stop use, destruction, hearings, revocation of permits, administrative fines, injunctions or other court action.

During the fiscal year the contract with the Federal Food and Drug Administration was continued for the fourth successive year. This joint effort in consumer protection between state and federal forces was expanded to include additional types of food processors. It has provided superior results in sanitary and microbiological inspections.

The Federal-State Poultry and Egg Grading Agreement with the United States Department of Agriculture was also continued. Under this program all USDA grading is done by the Florida Department of Agriculture and Consumer Services.

An independent state grading surveillance program is also conducted and in combination the two programs provide excellent quality assurance to the consumer. This year additional effort was made by retail food inspectors to verify egg grades in retail stores. This program had a high degree of effectiveness.

Approximately the same number of inspections (71 thousand) were made as last year, but additional time and emphasis was placed on egg grading and oyster testing at the retail level. In conjunction with these inspections, approximately 10 thousand samples were collected, 3,500 stop sale orders issued, 438 thousand packages weighed, 3.5 million pounds of unfit food destroyed, 155 million dozens of eggs and 267 million pounds of poultry inspected.

Road Guard Bureau

1976 marked the 42nd year of this regulatory program. Beginning as a limited citrus inspection, it has grown to provide vital support for many areas of regulation. 19 radio-equipped stations, supported by patrol vehicles, are located where highways cross the Suwannee and St. Marys rivers. An effective network is thus maintained to protect peninsular Florida from transportation of illegal agricultural, horticultural and livestock commodities, preventing the movement of potentially harmful insects and diseases and inferior quality goods.

All trucks and trailers are required by law to stop for inspection. Over four million such vehicles pass through these stations annually. Oranges and eggs, cattle and chrysanthemums, tomatoes and bees, horses and nursery stock, among a myriad of items, are checked for compliance with various state and federal statutes and regulations. Where violations are found, corrective measures are taken, ranging from various means of bringing the product into compliance if possible, to arrest and prosecution of the violator.

Commodity movement data are gathered for market evaluation and other statistical purposes. Support activities are provided for various enforcement programs of other state and federal agencies. For example, information provided to the Florida Department of Revenue

results in the collection of many thousands of dollars of revenue due which would otherwise be lost to the state.

The devastating effects of this winter's freeze on Florida agriculture was apparent in the movement of a number of commodities. An embargo was imposed on citrus shipments for a 10-day period in late January. Useful information was gathered from, and furnished to, migrant workers entering the state following the freeze. Fresh citrus shipments declined significantly from prior years, although canned and frozen citrus products reflected an increase. Tomato and watermelon shipments were considerably lower, while poultry, eggs and dairy products generally increased. The total number of violations encountered was down nearly 20 percent from the 1400 found in the previous year. This was most apparent in the fewer violations found in our activities in support of other agencies.

During this fiscal year, renovation and repair of a number of older facilities was accomplished, some needed equipment was finally secured, and a lengthy effort culminated in the promulgation of a uniform procedure manual. These accomplishments have seen collateral benefits in the morale and professionalism of the bureau's 150 employees.

Feed, Seed, Fertilizer & Pesticide Bureau

The Bureau of Feed, Seed, Fertilizer and Pesticide kept pace with Florida agriculture in this fiscal year 1976-77. Enforcement activities increased in proportion to the general increase of feed, seed, fertilizer and pesticide used. A significant amount of time was spent inspecting and sampling home owners' products. Many new items were registered and offered for sale. Nearly 45 thousand inspections were performed at dealers and consumers. Three thousand stopsale orders and irregularity reports were issued and about 104 thousand packages weighed. Altogether, over 85 thousand products were inspected during the year. 40 inspectors collected over 34 thousand samples, not including field tests for chlorine products or corn grading.

Fiscal year 1976-77 was an active one in feed control work as 46 new companies became active registrants for distribution of their feeds in Florida. Thousands of labels from established registrants as well as the new companies were reviewed at the rate of approximately 100 per week. Nearly two and a quarter million tons of feed were distributed in Florida on which inspection fees were paid. Dairy feeds totaled over 700 thousand tons and was the largest single category of feeds consumed. Dog and cat foods totaled over 200 thousand tons as our pet population continues to expand. In order to insure compliance of commercial feeds with the provisions of the Florida Commercial Feed Law, nearly 7,500 feed samples were collected. 20 percent of the samples were illegal and 688 penalties assessed, totaling over \$27 thousand. Many samples were in response to requests from consumers. In this category were hay or other farm-grown commodities for protein, fat and fiber analysis. Many samples of grain forage were analyzed for nitrate content. Additional samples were checked for aflatoxin as we become more involved with this growing problem. 59 inspections of firms were conducted under contract with the Food and Drug Administration. The rate of violation of Good Manufacturing Practice Regulations decreased from over 60 percent to 33 percent this past fiscal year. The medicated feed mill inspection is a complex assignment requiring the inspector to spend several hours in review of a firm's manufacturing practices as they relate to drug control. The fruit and vegetable division provided assistance during the peak months of July to October in grain grading. As a result, only 286 samples were graded by the division, permitting a diversion of efforts to other areas. This was down considerably from the past two years but still above prior years.

Several improved forms and sampling bulletins were developed for use in our certified seed program. Acres inspected under the certified seed program totaled nearly 20 thousand including 18,470 peanuts, 318 soybeans, 448 corn, 301 wheat, 36 watermelons and 3 cowpeas. The quality of seed sold for planting purposes is of vital importance to agriculture and the inspection program relating to seed reflects this importance. Over six thousand official seed samples collected during this fiscal year, representing nearly 29 million pounds, resulted in 278 illegal and 549 mislabeled lots reported. Other samples reported were

commercial or miscellaneous types for information only. Over 50 thousand pounds of seed were destroyed as unfit for planting purposes. Licenses to sell seed in Florida were issued to over two thousand dealers. Inspectors made more than 11 thousand dealer and about 2,500 consumer or farm inspections. Samples of small packet seed revealed that low germination is frequently a factor during the hot humid summer months in Florida. Efforts were made to have packet seed rotated or replaced on shelves to help assure good germination. It had been found that some packets remained on racks in excess of 12 months and germination was below standard.

This fiscal year saw some improvement in quality of fertilizer. Penalties were down 25 percent from the previous year even though more samples were collected and tonnage was up slightly. The Fertilizer Section approved several thousand new registrations and labels. Many companies re-registered various grades in order to comply with amendments to the fertilizer law passed by the 1976 Legislature. Approximately 70 thousand active registrations are on file and used regularly for checking labels. Over 9,600 fertilizer samples were collected from 2 million tons of fertilizer. Each sample represented an average of 16 tons but lots sampled varied from small packages to 50 or more tons.

The pesticide section was exceedingly active during the year and although the entire bureau was swamped with paper work, it piled higher and deeper in this office with the organization and implementation of the new pesticide Applicators' Program. While inspectors were busy in the field checking labels and collecting over seven thousand pesticide samples, the office force was busy in collaboration with the University of Florida certifying over 12,500 private, 750 public and 950 commercial applicators. Many hours were spent in determining appropriate classifications and hundreds of telephone calls were received seeking information and help in certification. Surveillance of pesticides offered for sale continued as usual with the normal rate of deficiencies found. Over seven thousand samples were collected, including several hundred home-owner products. Approximately 400 samples collected were deficient in active ingredients. Ten thousand pesticide brands were registered during the year. There were a few exceptions to the normal enforcement functions in the pesticide section. Several operators were found to be selling deficient and illegal pesticides and making false claims. These were fly-by-night "con-artists" generally depending on a single sale to each consumer. Prompt action resulted in only a few users being affected. The approval of "special use" pesticides to meet local needs is an important function of the Bureau. Most of the work involving approval of these pesticides under Section 24C of Federal regulations was handled by division staff members with special attention by Commissioner Conner. As a result of a heavy infestation of armyworms late in the season, a special pesticide for local use was approved for treating affected pastures. This action alone resulted in saving an estimated \$4 million to farmers. During the year, 19 pesticides were approved for local use because there were no available pesticides on the market to effectively control specific insect infestations. Altogether, 46 local use pesticides have been approved for use in Florida over several years. The processing of efficacy data and securing approval of these special local use pesticides are critical responsibilities of this section.

DIVISION OF MARKETING

John D. Stiles served in the U. S. Marine Corps during World War II for three years and was employed as director, division of marketing for the West Virginia Department of Agriculture before joining the Florida Department of Agriculture in March 1962 as chief of the state marketing bureau section of the division of marketing. He became assistant director in 1964 and director in 1966. Born in West Virginia September 5, 1924; he was graduated from the public schools there and received a bachelor's degree in agriculture from West Virginia University in 1950.



The goals of the Division of Marketing are to provide professional marketing services to Florida agricultural producers that will bring fair returns to our farmers and quality products to world consumers at reasonable prices.

The severe freeze of January 1977 and the drought conditions which prevailed throughout the spring made this past marketing season one of the most difficult ones that has been experienced by the Division of Marketing. The division was able to reorganize our marketing plans in time to realize the greatest marketing potential for the producers of Florida.

This past year has seen real efforts in organizing promotional and market development programs for our fresh fruits and vegetables after the freeze. These efforts included working with the transportation firms and seeing that sufficient rail and truck transportation was available to move the crops at the peak of the season which was brought about by replanting in the southernmost part of the state and normal planting in the other part of the state, which brought a double production in at one time. The marketing efforts of fresh vegetables and non-citrus is most commendable as it shows a steady dollar growth for the past seven years. These efforts have meant many jobs to Florida citizens and new dollars to our state, while providing consumers in the nation and world with Florida quality agricultural products.

Administrative Section

Major areas of activities and accomplishments of the administrative section cover a wide range of programs and included the following: Export marketing received major emphasis during 1976-77. Received the Presidential "E" Award for outstanding export services. Conducted a commodity identification study in Belgium to determine export potential. Personnel supported the Florida International Agricultural Trade Council, Inc. (FIATC) in its export efforts as well as the Southern United States Trade Association (SUSTA). Along with five Florida food and agricultural exporting companies, division personnel participated in the SUSTA Second International Food and Agricultural Trade Show. Foreign visitors were encouraged to attend the Ninth Latin American Livestock and Poultry Conference, resulting in one of the biggest turnouts of Latin buyers to date. Planned and co-conducted in cooperation with FIATC, the VII Florida Agribusiness Trade Show at the new Florida State Fairgrounds. Assisted several foreign buyer groups visit major Florida food producing areas. Personnel participated in Canadian Legislative hearings on trucking reciprocity, and in the Federal maritime Council meetings for the perishable exporters of Florida.

Transportation was more critical during the year than ever before. Due to an abnormally cold winter the agricultural industry required special assistance in the area of transportation in raising weight limits on fuels and feeds; and specialists served on the Florida Agricultural Transportation Task Force to bring transportation closer to the agricultural communities of Florida.

Emergency promotional work was carried out through the cooperation of commercial truck stops located throughout the U. S. to alleviate truck shortages due to an unusual harvest cycle.

The administrative section personnel were also active in the following major areas:

Worked with the Flue-Cured Tobacco Advisory Committee as a technical advisor.

Administered three active marketing orders: tobacco, peanuts, and soybeans. Assessment funds have been collected, budget recommendations developed and contracts written for the expenditure of these funds.

Worked extensively with tobacco growers, company representatives and USDA people to solve marketing problems.

The foliage industry was assisted in compiling a marketing order. Assisted the Florida growers and members of Congress regarding national peanut legislation.

Carried out an active program for the state's livestock industry, administering the Quarter Horse Promotion Trust Fund to supplement purses and prizes for state-bred horses. This program resulted in marked improvement in the value of Florida-bred quarter horses.

Commenced the development of a Florida Agricultural Export Directory, with enthusiastic response from agricultural interests.

Assistance continues to farmers in Gadsden County to find alternate crops to replace shade tobacco.

Developed four feasibility studies for marketing use as follows: Baby Beef Slaughter Plant Feasibility Study; Florida City Farmers' Market Feasibility Study; Pahokee State Farmers' Market Feasibility Study, and North Florida Market News Study.

Bureau of State Markets

The Bureau of State Markets' primary purpose is to assist the marketing of agricultural products. This function is carried out by providing leadership, facilities and information necessary to move agricultural products from farm to the consumer in a systematic and efficient manner at a reasonable price for the producer and consumer.

Several new packing houses and additions were made to our market system during the year. Considerable renovations and new additions were completed in the effort of upgrading our markets. Several tenants on the markets installed new equipment and machinery improving their ability to handle more produce.

The major additions and improvements to our market facilities during 1976-77 include:

1. Cooler rooms at Pompano.
2. Packing house at Gadsden County.
3. Packing house additions at Wauchula.
4. Packing house additions at Bonifay.
5. Extensive renovations and upgrading facilities at various markets were accomplished. Approximately \$590 thousand which had been appropriated by the Florida Legislature was invested in new facilities and market improvement during the fiscal year.

The state markets received the most challenging year in marketing fruits and vegetables through their various markets. The following is a comparison of units through all 15 state farmers' markets.

COMPARISON TABLE

	1975-76	1976-77
Units (bushels) Sold Through State Markets	27,051,490	20,374,983
Value of Produce Sold Through State Markets	\$139,994,187	\$138,665,642

The above indicates the severity of the cold weather experienced in January; the salvage of what could be made of some of our products that were still growing, the re-planting and marketing of the various products within the state.

This has been a most challenging year to our farmers as well as our farmers' markets.

The community retail markets have shown a continued interest on our state farmers' markets. Progress has been shown at Florida City, Fort Myers, Sanford and Gadsden County. These markets have been designed to assist our farmers and consumers who are on a fixed income and are needing assistance at this time.

The Bureau of State Markets this past year has put all efforts to develop modern marketing practices on each of our state farmers' markets so as to improve the efficiency in the handling and transportation of our agricultural products. Close cooperation was maintained with producer and commodity groups in standardizing, where possible, package and container sizes to meet the requirements and desires of the supermarket organizations.

Bureau of License and Bond

During this fiscal year there were 2998 licenses issued to bonded dealers in agricultural products. The revenue from license fees paid in support of the licenses amounted to \$61,530.

For the fiscal year, licensed dealers posted with this office surety bonds totaling \$19,352,314. The average amount of bond supporting a bonded dealer's license for the year was \$8,403. The decrease in average bond amounts resulted from a larger number of small bonds furnished by nursery dealers.

We issued 23 licenses under the Livestock Prompt Collection Law this year which brought in revenue in the amount of \$2,300. This law was again amended to provide that drafts given as payment at a livestock auction market for livestock purchases shall be deposited as cash items and to provide the responsibility of the purchaser of livestock to authorize payment for the transfer of funds to the seller and make it unlawful for the purchaser of livestock to delay payment of the livestock draft upon presentation at the payor's bank. We are currently in the process of beginning a new round of audits of the livestock markets' records in order to determine the degree of their compliance with this law.

During the year our four field employees made 1,229 contacts with dealers in agricultural products who were unlicensed for the purpose of investigating and determining whether or not these unlicensed dealers were operating in any manner where compliance with the License and Bond Statute would be required. Additionally, there were 3,331 contacts made in an effort to develop information as to the status of dealers transacting business in the state involving the various commodities covered under the License and Bond Statute. Finally, there were 2,026 personal contacts made in an effort to obtain license fees, application for licenses and surety bonds involving those dealers known to be transacting business under the authority of this statute.

Field personnel made 589 contacts involving the investigation of claims during the fiscal year. As of July 1, 1976, we had 33 claims pending with a total monetary value of \$358,883. During the fiscal year we received 189 additional claims involving monies totaling \$1,260,658 and finally, had pending as open files as of July 1, 1977, 72 claims totaling \$562,841. During the fiscal year, the surety companies involved paid claims totaling \$147,219. At the same time,

subsequent to administrative action, bonded dealers paid claims without recourse to their bonds in a total amount of \$60,648. In addition to the above, unlicensed and unbonded dealers settled claims totaling \$660. In summary, through our license and bond activities, there were \$208,528 recovered either from dealers or their sureties for the benefit of the Florida producers.

There was a bill introduced in the last session of the legislature that proposed to make an amendment to the Florida License and Bond Statute. One of its provisions provided the department with authority to require financial statements from applicants. There was objection from the industry to this aspect of the bill and it was subsequently withdrawn by its sponsor even though there were other provisions in it that would have improved the effectiveness of the License and Bond Law.

Bureau of Market Expansion and Promotion

During the past fiscal year, the activities of this bureau have involved many different promotional and marketing efforts.

Bureau personnel promoted consumption of Florida agricultural products by appearing on various television shows throughout Florida, as well as the eastern United States; Mini menu (recipe preparation) films were shown on stations throughout the mid-west and eastern United States; Harvest Festival dinners and tours were held in Montreal, New York, Detroit and Cleveland and an agricultural mall promotion was held in Orlando at the Orlando Fashion Square.

Various recipe brochures were researched, printed and distributed including a new multi-folded "Mini Menu" mailout; the Bureau's art department prepared ads for *Quarterhorse Magazine*, art work for point-of-sale material, logos and truck posters for commodity associations and art work associated with the Division of Marketing's activities.

Bureau personnel assisted and worked with many state and national organizations.

Among special projects carried out this year were the Florida Foods Jamboree which included some four thousand super markets. Bureau personnel along with the Florida Cowbells held beef promotions in Ocala and Daytona; staff personnel assisted the Florida Poultry Federation in planning and carrying out the Florida and National Chicken Cooking Contests, assisted in planning or participated in the Plant City Strawberry Festival, Blue Ribbon Cattle Meeting in Lakeland, the Florida International Agriculture Trade Council in Tampa, the National Association of Produce Marketing Managers Meeting in Fort Myers, Legislative Appreciation Day in Tallahassee and the Florida Foods Festival in Tampa.

Slide presentations, news articles, feature stories, speeches, photos and information programs were prepared by personnel of the bureau.

The bureau produced and distributed a bi-monthly radio program, "Tips to the Homemaker," consisting of three releases per tape. These featured information on Florida agriculture commodities. A monthly newspaper information sheet entitled "Clips & Tips" was distributed to daily, weekly and monthly newspapers throughout the southeastern United States on Florida agriculture and commodities. A bi-monthly institutional news letter entitled "FeedBack" was prepared and mailed to the institutional food industries in Florida. This news letter included information on the availability of Florida agriculture products and quantity recipes.

Mini menu films distributed this year were aired 489 times as public service-type announcements or fillers and some 1,300 written requests, as a result of these free airings, were received and answered. Bureau personnel also researched and directed the filming of three new mini menu films on squash, sweet corn and foliage. The bureau also planned and directed two additional films for individual commodity groups on peanuts and foliage. These films will be released during the 1977-1978 season.

The bureau personnel conducted various recipe testings, contacted chain stores and independent produce merchandisers on numerous merchandising calls made in the eastern United States and Canada. Miss Sunflavor, Florida's Agriculture Queen, represented the department at various functions throughout Florida and the United States. Bureau personnel also assisted and planned the Miss Sunflavor pageant and contest which were held at the Tampa State Fair.

The bureau also was active in researching, writing and providing information on the President's "E" Award, the Foliage Marketing Order, Bicentennial Time Capsule and the processing of applicants for the Miss Sunflower Pageant.

Home economists from the bureau appeared regularly on six different television stations located throughout the state with an approximate total of 72 appearances demonstrating recipes utilizing Florida agriculture products. As a result of these appearances some 2,542 individual requests for these recipes were received. Areas in the state that were covered by these appearances were Jacksonville, Tampa, Panama City, St. Petersburg, Orlando and Tallahassee.

The bureau also distributed, through its warehouse facilities, commodity point-of-sale material for celery, sweet corn, tomatoes, watermelons, limes and avocados to some 42 states.

The bureau also developed, produced and distributed special departmental promotional material. Point-of-sale material also was distributed to three foreign countries. The total number of point-of-sale kits distributed during the 1976-1977 season was 133,149 which includes approximately 4,836 special "Goodness From Florida" and "Florida Foods Jamboree" kits. Additional bulk shipments of commodity material consisted of some 3,103,404 pieces.

Bureau of Market News

The Fruit and Vegetable Market News offices brought new meaning to marketing efforts this past year. After the freeze of January 1977 new efforts were given to the daily and weekly movement of fresh fruits and vegetables. By the historical data already present, along with the day-to-day information that was available, it was possible to reorganize and plan a market development program indicating the time production would be at its peak, transportation that would be needed, and supermarket promotions to move the doubling-up production at its peak time. This information contributed greatly to a reasonably balanced marketing program as our volume went from under supply to oversupply in a very short period of time.

The poultry and egg section introduced and completed a summary of poultry and eggs product movement from Florida in addition to reporting continually the weekly market summary and daily information as it relates to all poultry and eggs within the state.

The livestock section trained and certified two new field reporters and are making plans to relocate the office in Orlando. This section worked very closely with the Florida Cattlemen's Association in providing current and immediate information. The recorder services were shifted from Kissimmee in Osceola County to Orange County which has greatly improved the reliability of the recorder and made information available immediately.

The *Florida Market Bulletin* was again circularized resulting in a reduction of subscribers from approximately 73 thousand to 43 thousand. This was accomplished by extensive cooperation by numerous division personnel and print shop staff. The "Want and Sale" listings in the Bulletin have proven most beneficial to the citizens of the state in helping to find markets for products that they have for sale.

Florida Crop and Livestock Reporting Service

The Crop and Livestock Reporting Service encountered unusual challenges associated with its citrus forecasting program in 1976-77, with extremely large crops which were seriously diminished by severe January frosts. However, these were opportunities which further established the effectiveness of the program. Also, in general, efforts to improve accuracy and gain greater efficiency in the day-to-day work were successful.

Administration — The joint administration of the Florida Department of Agriculture and the U. S. Department of Agriculture statistical programs provides both efficient and economic operation of projects. Requests for information were answered promptly. During the year, a modification of the department time and mileage worksheet for employees was made to accommodate needs for computer analysis of the various programs to provide workloads and costs.

Livestock Market Information — The "Florida Livestock Roundup" was published monthly as a cooperative endeavor of the Division of Marketing, Food and Resource Economics Department of the Univer-

sity of Florida, Florida Cattlemen's Association and USDA. A variety of marketing information is included in this release. The university contributes economic outlook information. The Florida Cattlemen's Association endorses the publication by reproducing and mailing the "Roundup" to its entire membership of about seven thousand.

The annual publication "Florida Livestock Statistics, Livestock Summary" was continued as a compilation of the major livestock data available to reflect the position and trend of Florida's livestock industry with other states and the U. S.

Turfgrass Survey — Completed and distributed to interested parties.

Citrus Tree Census — The field checking of the 1976 biennial citrus tree census was accomplished by July 15. A preliminary report of the survey results was released in August 1976 and a detailed summary was published in December. The planning for the 1978 biennial citrus tree census was accomplished by March.

Citrus Crop Forecast — The 1976-77 first citrus forecast was made in October. This forecast was invalidated by the freeze of January 20, 1977. Cold damage surveys were made during the cold mornings so information could be supplied to the Florida Citrus Commission for their action to embargo fresh shipments. Another survey was conducted about 10 days following the freeze from which new forecasts were made on February 10. The new forecast for oranges was 183.0 million boxes, actual harvest was 186.7 million boxes. Other varieties were forecast with equal accuracy.

Citrus—Pounds Solids — The 1976-77 FCOJ forecast converted to total gallons was within acceptable tolerance. However, the boxes of fruit were slightly more than projected with the yield per box being slightly less than projected.

Citrus—Research Program — A special survey on oranges collected in Orange, Lake and Polk counties was made to relate weight and volume. Each individual orange was weighed and then measured to determine volume. This volume to weight is being studied to see if a further improvement can be made in citrus forecasts.

Citrus—Prices Received — Citrus prices were collected and published on a monthly basis during the 1976-77 season. At the end of harvest, a weighted season average price was published based on utilization data. Data was collected and utilized to revise the 1975-76 monthly and season average prices to include fruit marketed cooperatively and in participation plans.

Citrus Summary — In cooperation with the Market News Service, the "Citrus Summary" and "Marketing Florida Citrus" were again published. These provided major statistical series under one cover for mailing to a single unduplicated mailing list.



DIVISION OF PLANT INDUSTRY

Halwin L. Jones was employed in 1949 as an inspector with the State Plant Board, which was to become the division of plant industry in 1961 under government reorganization. He was assistant plant commissioner and assistant director from 1951 until November, 1964, when he became director. Mr. Jones was born March 7, 1924 in Crescent City, Fla., and was graduated from the University of Florida in 1949 with a bachelor's degree in agriculture and in 1952 with a master's degree in agriculture.

As the plant regulatory agency for Florida, the Division of Plant Industry is charged with the responsibility of protecting Florida's agricultural and horticultural industries from plants pests which could pose serious economic threats.

The Division of Plant Industry is responsible for the inspection and certification of all nurseries and stock dealers throughout the state, non-nursery certification and other special certification program and regulatory duties, including survey and detection.

These duties are accomplished through the aid of agricultural products specialists, plant pest technicians and apiary inspectors stationed throughout the state. Field personnel are supported by administrative, scientific and technical personnel located in Gainesville—headquarters for the agency, Winter Haven and Miami.

Bureau of Plant Inspection

The Florida nursery industry experienced its largest single growth increase and recorded its greatest number of nurseries under inspection during the 1975-76 fiscal year. However, the increase in new nurseries and total active nurseries again set an all-time record for the Division of Plant Industry during the past year. During the 1976-77 fiscal year, the total number of active nurseries under inspection was 8,531, an increase of 1,424 nurseries over the 7,107 reported at the end of the 1975-76 fiscal year.

During the 1976-77 fiscal year 1,944 new nurseries were registered, exceeding last year's record 1,848 by 96 nurseries. During the same period 1,019 nurseries were marked out of business. A total of 21,469 inspections was made of the 8,531 reported nurseries this year for an average of 2.52 per nursery. This compares with 17,260 inspections made of 7,107 nurseries reported in fiscal year 1975-76.

Nursery stock dealers, agencies which buy and sell plants but do not propagate them, totaled 6,805, compared to 5,160 reported at the end of the last fiscal period, for an increase of 1,645 new dealers. The average number of inspections for stock dealer establishments was 0.93 per year.

Agricultural products specialists inspected 909 acres of potatoes in the Hastings and Homestead areas and certified 2,012,775 pounds for European export. This was the first year Florida had a potato export market on that continent, and this was due primarily to a shortage of crops experienced during a long drought.

Export certification work in 1976-77 resulted in 9,309 state phytosanitary certificates issued for 75,827,414 items. Agricultural products specialists collaborating with the U. S. Department of Agriculture issued 471 federal phytosanitary certificates for 7,430,479 items. This totals 9,780 phytosanitary certificates issued for 83,257,893 items.

Bureau of Pest Eradication and Control

The citrus blackfly program is currently the Division of Plant Industry's biggest program. Efforts to eradicate the citrus blackfly, which invaded South Florida in January 1976, continue unabated at the end of fiscal year 1976-77 with a total of 209 state personnel (most of which are OPS) and 136 USDA personnel assigned to the program.

The major portion of these persons is employed in the control phase of the program associated with spray operations.

Approximately one thousand square miles in Broward, Dade and Palm Beach counties are presently under quarantine for the citrus blackfly. From July 1, 1976 to June 30, 1977, 23,660 properties had received spray treatment for the pest. In Palm Beach County, 75 percent of the designated area has been treated. Twenty-five percent of the designated area has been sprayed in Dade County. In Broward County, the only spray being applied is to the infested environs of nurseries.

To give some indication as to the scope of the control operations, in June alone, 556,162 gallons of spray were applied, utilizing 3,299 pounds of Orthene and 16,048 ounces of malathion, to 157,536 host plants on 39,084 properties. A cumulative total of 1,183,000 host plants on 292,000 properties had been sprayed at the end of June 1977.

Regulatory activities consist of inspection of nurseries on a one, two or three month basis (depending on their proximity to known CBF infestations), witnessing the spraying of CBF host plants in nurseries, and certification of movement of fruit (citrus and mango) from the regulated area.

At the end of the fiscal year, 1,261 nurseries and stock dealers were under inspection. Of these, 161 are under quarantine and 57 are infested with citrus blackfly.

Surveys have been conducted for the entire area from Jupiter Island in Martin County to Homestead in Dade County. In addition, during the summer of 1976, an urban biometric survey was conducted of the entire citrus growing area of the state. While emphasis on survey at this time is at a low ebb, it will increase greatly towards the end of the year as surveys are begun in areas which have been sprayed. It is estimated that 6 to 12 months must lapse after spraying to allow citrus blackflies which might have been missed to build back up to detectable levels, so the additional surveys will serve as safeguards in keeping a check on the blackfly populations.

Research and biological control activities for the citrus blackfly program appear promising. Three different species of tiny parasites are showing good results in reducing blackfly populations in several test areas.

Although the sugarcane rootstalk borer weevil is quite a destructive pest in Florida, the biggest problem as far as the Department of Agriculture is concerned is that of the regulatory operation, since there are not pesticides presently available which could effectively be used in some sort of control or eradication effort.

It appears that an effective tool in helping eradicate the weevil has been found, but the department is presently awaiting approval by the U. S. Environmental Protection Agency (EPA) of the experimental growth regulator which is believed will accomplish the task.

Meanwhile, division personnel continue to monitor areas in the vicinity of packing houses, processing plants and caretaking establishments, which work or harvest groves within the regulated area, to detect any movement of the weevil to uninfested groves. In addition, groves on the periphery of the infested area are inspected, concentrat-

ing on selected groves with good flush or growth, for signs of spread of the weevil to new areas. Weevil infestations currently exist in Orange, Seminole and Broward counties.

The state's involvement in the lethal yellowing program has been limited during the past year, due to a lack of funds. However, the Division of Plant Industry continues to provide a service to municipalities by distributing the antibiotic, oxytetracycline. This allows the municipal governments to purchase the chemical at a lower cost because of the volume purchased by the state, than would be possible if they were negotiating with the distributor directly.

Continued interest by persons in South Florida, especially private garden clubs and golf club members, keep personnel assigned to this program occupied with supplying information and answering questions about lethal yellowing and other associated palm problems.

Grower interest in the spreading decline program continues with little reduction, and the number of participants is virtually the same as before the cost of operating the program was assumed by the grower. For the fiscal year ending June 1977, a total of \$340 thousand was collected which is \$57 thousand more than had been estimated. The cost for processing samples for the burrowing nematode has been increased from \$4 to \$7 per sample.

All fruit fly detection devices continue to be examined on schedule and relocation of the traps is being accomplished at above the minimum frequency suggested. Personnel assigned to this program are encouraged to be on the lookout for other potential plant pests. It is hoped that if emphasis is placed here, costly eradication programs will be reduced by early detection.

Bureau of Citrus Budwood Registration

Development and expansion of the shoot-tip grafting propagation technique appears promising as a new means of providing the citrus industry with virus-tested and horticulturally sound sources of citrus for commercial propagation.

This technical procedure enables the bureau to obtain virus-free plants from highly desirable budlines previously unavailable for use on certain rootstocks due to virus infection. More than 170 shoot-tip propagations have been established in the division's Dundee greenhouse. Of these 117 are now being re-indexed to establish their freedom from viruses. Simultaneous propagations have been made on precocious rootstocks in order to verify true-to-type fruiting habits. Those passing preliminary evaluation will be planted in the Division of Plant Industry's Budwood Foundation Grove in the fall of 1978 for further evaluation as a source of distribution of propagating material.

Exocortis indexing continues to occupy a large portion of the bureau's indexing activities. Testing of individual scion trees used for propagating is essential as the industry continues to rely on Carrizo citrange and other rootstocks susceptible to exocortis virus.

The Division of Plant Industry made its first distribution of healthy Star Ruby propagation material to nurserymen and growers in Florida this past spring. It is expected that the release of this certified material will deter distribution of more unauthorized and possibly diseased plant material of this variety in the state.

The Florida Citrus Aboretum in Winter Haven, a planned collection of citrus and citrus relatives numbering more than 600 cultivars, is now beyond the building construction stage. Efforts are now being directed toward collection of plants, seeds, and propagative material, with more than 150 accessions already cataloged. Planting of trees in designated areas to create an aesthetic and botanical relationship will get underway in the spring of 1978.

Bureau of Entomology

The division's Bureau of Entomology added a number of new specimens to the Florida State Collection of Arthropods (FSCA) which will help provide a greater reference for the bureau's arthropod identification service.

There were 154,705 specimens identified from 9,712 samples received during the fiscal year. The number of specimens added to the FSCA was: 153,233 pinned and labeled specimens, 7,557 slide mounts, 7,715 vials, and 2,855 papered specimens, for a total of 171,360 processed specimens.

The European corn borer, *Ostrinia nubilalis* (Hubner), was found in Jackson, Calhoun, Holmes, Okaloosa, Santa Rosa, Gadsden, Jefferson and Hamilton counties last year. Hamilton County is a new record for this pest, but to date it is not known to pose a threat to the sweet corn growing areas of peninsular Florida.

Another pest, a predaceous mite, *Phytoseius woodburyi* De Leon, was found associated with an unknown eriophyid mite on oak in Dade County. This is the first Continental U. S. record for *P. woodburyi*.

Personnel in the Bureau of Entomology continue to conduct investigations of plant pests which may present economic problems, assist in instructing agricultural products specialists, conduct taxonomic investigations and supervise the security of the biological control laboratory.

Bureau of Nematology

A change in organization, aimed at improving services provided to Florida's nurserymen, growers and homeowners by the Bureau of Nematology has highlighted this fiscal year.

The bureau's responsibilities have been categorized into areas of regulatory, survey, control and botany, with each area supervised by one scientist. Quality of service to Florida nurserymen and growers is a primary goal.

The recovery and identification of plant parasitic nematodes from soil and root samples, identification of plants and the dissemination of results of nematological and botanical samples have priority in the bureau. A total of 16,328 samples was received for nematode evaluation during the fiscal year, and plant identifications totaled 1,447.

A new system was designed to shorten the time of transmitting finished results of samples submitted. Bureau personnel have made 51 field trips to visit and assist growers and nurserymen in solving production problems involving nematodes.

Progress has been made on a project designed to morphologically differentiate between banana and citrus races of the burrowing nematode, *Radopholus similis*. A sample density chart is being developed for use as a guideline in taking regulatory samples. Evaluation of nematodes associated with plants imported into Florida also continued this year.

Bureau of Plant Pathology

The Bureau of Plant Pathology has continued to work with pine seedling nurseries to help them reduce seedling losses due to disease. These nurseries grow in excess of 100 million trees annually. Proper fumigation prior to planting and subsequent fungicide drenches have been very helpful in this effort.

Fusiform rust, which is occurring in epidemic proportions in parts of north Florida, has been rather static this year. High temperatures and lack of rain and fog during seasons of primary period of spread have helped reduce this threat in 1977. Pitch canker is also rather static in Volusia and Flagler counties this year, where it was occurring in epidemic proportions in 1976. However, pitch canker is on the increase in West Florida, particularly in the U. S. Forest area near Bristol.

The bureau continues to improve its expertise in working with the Phycomycetes and the *Fusarium* spp. Progress has also been made in obtaining more knowledge of the gall-forming organisms such as *Kutilakesa madreeya*.

Much of the activity in the division's quarantine greenhouse facility centered around a ringspot virus found on Star Ruby grapefruit introduced into Florida by a grove owner. This virus was compared to described ringspot viruses from Florida, Texas and California. All isolates had similarities; however, the most closely related were the virus from Star Ruby independently introduced into Florida and one from a Star Ruby tree in Texas.

Introductions presently undergoing virus indexing in the quarantine greenhouse include two horticulturally desirable varieties, Ray Ruby grapefruit from Texas and a red navel orange from Venezuela, and two highly sensitive exocortis indicator clones from California. The facility is currently above planned capacity.

A house trailer has been obtained for conversion to a temporary tissue culture laboratory. Shoot-tip grafting techniques will be used to

rid certain introduced citrus clones and other selected plants from viruses.

Bureau of Apiary Inspection

For the past several years, Florida has ranked among the top three states in the nation in value of honey produced and in 1976 was number one. Florida's honeybee population (estimated at 360 thousand colonies) produces from 25 to 30 million pounds of honey each year at wholesale value of \$10 million to \$12 million. It is also significant that \$50 million worth of agricultural crops depend upon these honeybees for pollination.

As a protection to the honeybee industry, the State Legislature passed the Florida Bee Disease Law in 1919. The original and continuing objective of the law is the detection and destruction of honeybee colonies infected with a disease known as American foulbrood caused by *Bacillus larvae*. This disease, while completely harmless to humans, is highly contagious to honeybee colonies. Although American foulbrood continues to be a threat to the Florida beekeeper, Florida's disease rate is 0.05 percent, one of the lowest in the nation.

During the year, 217,403 honeybee colonies were inspected in 4,377 apiaries; 1,068 colonies of American foulbrood were found and destroyed.

Bureau of Methods Development

The methods development bureau has been given the added responsibility of supervising the imported fire ant program and the division's fumigation operations. During the past year a number of investigations were begun, some of which have been completed, and others of which are in various stages of completion.

Arizona, California, Hawaii, Texas and Japan have maintained their quarantines on certain Florida commodities for the Caribbean fruit fly. To meet these requirements, fumigation chambers were operated at Gainesville, Wahneta and Ft. Pierce.

The citrus blackfly program has presented this bureau with a number of problems and prompted a number of investigations. An economic entomologist, stationed at citrus blackfly headquarters in Ft. Lauderdale was employed last year, and he has conducted intensive investigations in methods to be used against the citrus blackfly.

A survey of the state is being conducted to determine the populations of the imported fire ant and how different habitats affect infestations. This will give a better indication of areas needing treatment and will be used to meet certain requirements of the EPA Mirex label as to ant populations in treatment areas.

As would be expected, the imported fire ant populations continued to increase in many areas of Florida.

During this fiscal year, a fall treatment was planned and applications for aerial treatment for the pest were taken. Mirex bait was not available for this treatment due to the refusal of Hooker Chemical Company to make available to the Mississippi Authority for Control of Fire Ants the necessary active ingredient for Mirex bait. Applicants were given the chance to obtain a refund or have their applications remain on file for the spring treatment.

As of January 1, 1977, the label on Mirex bait changed, under which only 0.01 percent Mirex could be manufactured. The new label also reduced the amount of Mirex bait applied per acre to one pound, or 0.016 ounce of actual Mirex per acre. The label allows 2.5 pounds of Mirex bait per acre to be used in ground application. In addition to this limitation on the new label, the director of the EPA, upon request of the Mississippi Authority for Control of Fire Ants, banned the use of Mirex bait by aerial application after December 31, 1977, and its use altogether after June 30, 1978. Limited use of Mirex bait in coastal counties was approved by the EPA. Mirex bait can be applied by air in coastal counties to within 12 miles of the coast or inlets therefrom.

In February, Mirex bait again became available as the Mississippi Authority for Control of Fire Ants found another source of the active ingredient. Applications for aerial treatment were taken, and aerial treatment began in March of this year. Applicants paid a charge of 30 cents per acre for this treatment.

DIVISION OF STANDARDS



Sydney D. Andrews was born in Tallahassee on July 23, 1915. He attended Florida State University and Biarritz University in France. During World War II he served in Europe with the U. S. Corps of Engineers. In 1933 he joined the department as a laboratory assistant, was later promoted to assistant oil analyst, and then to chief of the petroleum inspection section. In 1963 he was made assistant director of the division and then director in 1968. He is a past chairman of the National Conference on Weights and Measures and is currently chairman of the committee on petroleum and lubricants for the American Society for Testing and Materials.

The Division of Standards is charged with the responsibility of administering Florida's gasoline inspection, brake fluid and weights and measures laws. Its work, carried out through a coordinated program of field and laboratory testing, is oriented to protecting both consumer and seller alike.

The division headquarters and main laboratory are located in a modern testing facility in Tallahassee. In the field, the division has a highly trained inspection force conducting a variety of tests on all kinds of commercial weighing and measuring devices and drawing fuel samples for quality analysis in the laboratory. Specialized field equipment such as mobile laboratories and large scale test units equipped with up to 24 thousand pounds of test weights add to the completeness of the program. A branch laboratory having the latest field testing and weights and measures calibrating equipment is located in Port Everglades, serving the needs of consumers in South Florida.

In the division's Bureau of Petroleum Inspection, the testing of petroleum products and brake fluid from both a quality and quantity standpoint safeguards all parties and points out to the industry careless or unscrupulous operators.

The Bureau of Weights and Measures inspects and tests weighing and measuring devices throughout the state to assure fair transactions in the marketplace.

Bureau of Petroleum Inspection

More than four billion gallons of gasoline and kerosene are sold in Florida annually. During 1976-77, 75 thousand samples of these products as well as diesel fuels, burner oils, lubricating oils and brake fluids were drawn from retail and wholesale outlets by bureau inspectors for laboratory analysis at one of the two permanent laboratory sites or on one of the four mobile field units.

Gasoline is tested for antiknock quality, volatility, sulphur, lead and to be certain it has not been contaminated with water, foreign material or other kinds of fuel. The quality of diesel and heating fuels is also checked to be certain safety standards are maintained and the product will perform properly in power and heating equipment. Brake fluid is an important part of the vehicle braking system. Its reliability and performance are assured through a mandatory registration and quality inspection program administered by the Bureau of Petroleum Inspection.

Last year, better than 31 million gallons of gasoline, kerosene and diesel fuel were found below state standards of quality and removed from sale at Florida terminals and service stations.

Petroleum inspectors also make periodic tests on gasoline pumps, petroleum meters, vehicle tanks and liquefied petroleum gas meters at both wholesale and retail outlets. In 1976-77, better than 171 thousand inspections were made on these devices. Those found inaccurate or incorrect were either condemned for use or placed under correction order. Investigations are made to determine the cause of violations. Normal wear through use was the cause in the majority of cases. But because of the inspection, most companies have regular maintenance programs so they can be certain that measuring equipment is always up to state standards. The combined programs of

inspection and owner maintenance are effective in keeping violations to a minimum in Florida.

The laws and regulations governing petroleum measures and fuel quality are under constant review by division and bureau personnel. These, along with test methods and laboratory equipment are modified or upgraded whenever necessary to be certain Florida's consumers and industry receive protection under current and uniform standards.

Bureau of Weights and Measures

Laboratories of the Bureau of Weights and Measures house the primary state standards of length, mass and volume that are directly traceable to the National Bureau of Standards in Washington. From the laboratory, state weights and measures inspectors and other regulatory personnel receive calibrated standards and equipment to test all weighing and measuring devices used in Florida commerce.

In recent years, bureau responsibilities have grown, principally from scale testing to a coordinated program assuring that all weighing and measuring devices show true value. The technical personnel and inspectors undergo constant training to keep up with modern technology as traditional measuring systems are replaced with new, advanced methods and equipment. Grocery store scales, taximeters, odometers, linear and fabric measuring devices and package goods sold from every retail shelf in Florida are inspected to be certain they give accurate quantity information. During 1976-77, more than 104 thousand inspections, tests and calibrations were performed by the bureau in the laboratory and field. Weights and measures found measuring inaccurately or incorrectly were removed from use.

During the fiscal year, bureau inspectors randomly tested packages of non-food commodities valued at over \$700 thousand. Close to 40 percent of these were found to be short measure and were stop-saled. Following each stop-sale, shortages were investigated and deficiencies corrected.

The moisture content of grain is of vital importance to buyer and seller, because grain is sold by weight. Moisture in grain affects weight at the time of sale and special measuring devices are used commercially to establish moisture corrections. In 1976, the weights and measures laboratory began developing a program to calibrate and certify moisture meters used by farmers and buyers. In 1977, the Florida legislature amended the Weights and Measures Law, giving the bureau authority to inspect commercial moisture meters. The bureau is now conducting its first series of field tests on commercial meters, using methods developed in the laboratory.

Recognizing the importance of owner and user appreciation for weighing and measuring devices, the bureau encourages and sponsors self-maintenance programs. The laboratory certifies weights and other measurement standards for authorized scale mechanics and industry. It cooperates with county and municipal governments in developing programs at the local level, giving weights and measures the broadest possible coverage.

Florida's Bureau of Weights and Measures is equipped with metric measurement standards and expertise in metric and is capable of assuring fair and accurate measure in the new system as the United States goes metric.